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FRUIT MARKETING

Developing the Australian Market.

THE SUCCESSFUL launching of an organisation of growers, wholesalers and retailers in Victoria to develop the local and interstate market marks a new era in the fruit industry. Remembering the difficulties of administering the organisation simply as an "association," it was decided—wisely—to operate as a limited liability company. The name will be "Victoria Mark Fruit Co. Ltd." This follows along the lines of successful organisations similarly constituted elsewhere in Australia and in other parts of the world. Briefly the objectives are to create and maintain standards, advertise to increase the consumption of fruit and to turn poorer grade fruit into by-products.

The company is to be adequately financed. The nominal capital is £60,000 in 20,000 shares of £3 each. Large meetings of growers have been held in various parts of the State and shares are being freely taken up.

It is encouraging to note that the public press has published editorial notices giving unqualified approval.

For years past purely growers' associations have been organised, run for a time and expired. The linking up of the commercial elements—so successful in Australia and other parts of the world—is to be commended. After all, this is a fruit marketing association, and the inclusion of the trade is highly commendable. The success of the Victorian Fruit Marketing Association—an organisation of growers and shippers—has been so marked that its members felt the time was ripe for launching an association to deal with local marketing. Through its business-like organisation the V.F.M.A. assisted to launch this new movement which is to be known as the "Victoria Fruit Mark Co. Ltd." Though the wholesale and retail trade are an essential part of the organisation the growers are in complete charge throughout. While commencing with Apples and Pears, the organisation is wide enough to embrace all fruits.

* * * *

While valuable work has been done throughout Australia in connection with cultural research, the question is asked have we so far given sufficient attention to marketing research? Have we an adequate survey of the various fruits grown in the Commonwealth, the varieties, and their market value? Is there not an urgent need for a census, also for a production map of Australia showing the fruit growing districts and the quantities of fruit produced from year to year? This would provide a much needed system of crop forecasting, thus to reduce haphazard and "blind" marketing. What is the normal absorptive capacity for fruit in the principal markets of Australia? What is being done to develop the country trade? We know all too well that many country districts are inadequately supplied with fruit and that much of the fruit which they do receive is of poor quality. Much of it, which is conveyed by motor truck, should never leave the growers' orchards.

Then again, what is being done to advertise in an educational manner to increase the consumption of fruit? Fruit is the Creator's marvellous health gift. As mentioned in the last issue of the "Fruit World," fruit has a wonderful "protective" quality for children. Every dietitian knows that grown-ups should have at least one complete fruit meal per day. It was recently estimated that £250,000 is spent annually in Australia in advertising patent medicines and laxatives, yet fruit is Nature's own laxative and health bringer. The public need to be told these facts.

The time has gone for growers' Associations simply to act as glorified debating societies and for carrying resolutions asking the Government or others to do things.

Australians are not lacking in initiative and enterprise. The movement just launched in Victoria will have the support of every right-thinking grower and trader. Success has already attended similar enterprises in some of the other States and New Zealand. America has been successfully operating in this manner for twenty years past.

It is not to be expected that the "Victoria Mark Fruit Co. Ltd." will get in top gear at once. Much remains to be done, but with the spirit of goodwill, every obstacle will be overcome. The new movement has been launched on sound lines, and its success is assured.

APPLE AND PEAR EXPORT COUNCIL.

Conference in Sydney on October 8-11.

The Annual Conference of the Australian Apple and Pear Export Council will be held at Sydney from October 8 to 11, 1934.

Delegates will be in attendance from every Australian State. Many exceedingly important items appear on the agenda paper.

Of particular interest will be the report by Mr. G. W. Brown, delegate to the Empire Producers' Conference, London.

Developing the Local Markets

A BIG CROP of Apples is expected throughout Australia in the coming season.

With the restriction of export, the adequate development of the home market is imperative.

Hence, the formation of the Victoria Mark Fruit Co. in Victoria—an association of growers, wholesalers and retailers.

A "Fruit Industry Association" on similar lines is being organised in New South Wales.

It is pleasing to note the success of the Apple Sales Board,—a voluntary organisation of growers and merchants—in Western Australia.

In New Zealand success has also attended the "Dominion Mark" fruit distribution scheme.

SELL FRUIT BY COUNT.

FOR TOO LONG has Victoria submitted to having Apples, Pears and Peaches sold by the weight instead of by count.

Both growers and retailers are now convinced these fruits should be sold by the count.

It needs concentrated activity to bring about a change in the long-established system of selling these large fruits in Victoria by the pound.

One of the objects of the new Victoria Mark Fruit Co. in Victoria is to have all large fruits sold by the count instead of by weight.

Let us all start boosting selling by count. Talk it up among growers, retailers and the public.

This much-needed reform will be speedily brought about if we set about it with goodwill and determination.

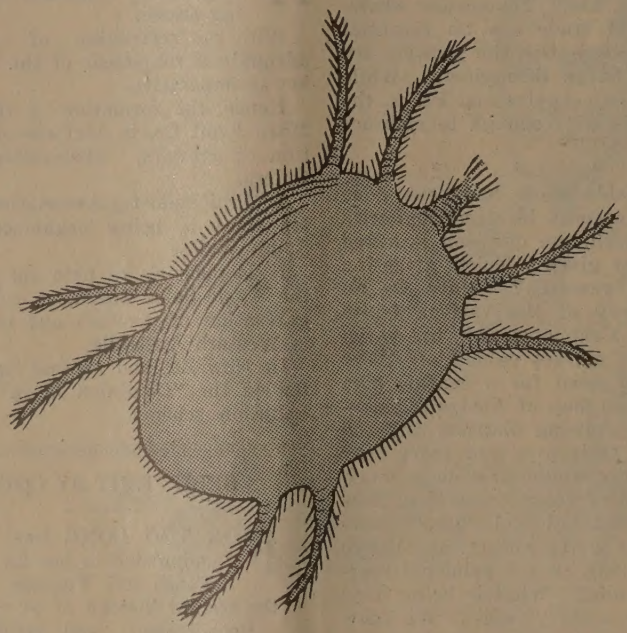
APPLE AND PEAR CONFERENCE.

ACTIVITY IN ENGLAND.

The importance of the Apple and Pear industry in Great Britain is emphasised by the Royal Horticultural Society, which is holding a conference on Apples and Pears at the Crystal Palace, London, from September 19-22. In conjunction with this will be the autumn show of flowers, fruit and vegetables.

The conference will discuss the questions of classification and nomenclature, winter pruning of Apples, Pears and Plums, summer pruning of hard fruits, the effect of cultural conditions on fruit quality, reports on British fruit Research Stations, stocks for Pears, and storage of hard fruits.

Delegates will pay a visit to the Royal Horticultural Societies' trial grounds at Wisley.



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Orchard Spraying

Sulphur Sprays for Black Spot, Powdery Mildew and Brown Rot — The Value of Hydrated Lime in Bordeaux — Recommendations for the Use of Copper Sprays.

(By Dr. G. H. Cunningham, Mycologist, Plant Research Station, Palmerston N., N.Z.)

THE SUCCESS which has attended the research work by Dr. G. H. Cunningham, of New Zealand, with regard to sprays for fruit trees, has created great interest in Australia.

Growers have expressed appreciation for the articles in the previous issues of the "Fruit World" on this subject.

Continuing, we now publish other seasonable hints by Dr. Cunningham (being extracts from the "N.Z. Journal of Agriculture"), thus:—

The value of the sulphur as a spray may be measured in terms of the size of the particles of which it is composed.

Sulphur is classified thus: (1) ground sulphur, (2) sublimed sulphur, (3) precipitated sulphur, (4) colloidal sulphur.

Colloidal Sulphur.

This name is applied to a group of sulphurs characterised in that the particles of which they are composed are mostly spheroidal in shape, of exceedingly fine dimensions, and do not aggregate, but remain dissociated. The particles range in size from a small percentage of grains about 3 to 4 microns to ones so minute as to be beyond the limits of accurate measurement; the majority average between 0.5 and 1 micron.

Colloidal sulphurs are recommended at from 2 lb. to 4 lb. per 100 gallons of water, on a basis of their containing 50 per cent. of sulphur in the concentrate.

Uses of Sulphur Sprays.

In New Zealand sulphur sprays have been used since 1916 in the control of black spot and powdery mildew of Apples, and since 1925 against brown rot and leaf rust of stone fruits. Until this last season only ground and sublimed sulphurs were used on a commercial scale, their use in recent years becoming general owing to a belief among orchardists that their addition to lime-sulphur tended to reduce the scorching and russetting effect of the latter on leaves and fruits. Precipitated sulphur was used to a lesser extent, since its high price and relative inefficiency compared it unfavorably with ground or sublimed sulphurs.

Experiments conducted in various parts of the Dominion during past seasons have shown that ground and sublimed sulphurs give partial control of black spot, but have practically no effect upon podwery mildew. Somewhat comparable results were secured with precipitated sulphur.

With colloidal sulphurs, on the other hand, outstanding results have been secured, for not only has this material (at 4-100) proved about equal to lime-sulphur as a controllant of black spot, but it has given decidedly superior results in combating powdery mildew.

During the past season a commercial colloidal sulphur at the reduced strength of 2-100 gave almost complete control of powdery-mildew in one locality where lime-sulphur failed to hold it in check. The most outstanding results have been secured with a combination of colloidal sulphur and lime-sulphur (lime-sulphur 1-200 plus colloidal sulphur 2-100), this combination effectively controlling powdery-mildew, holding red mite in check, and producing fruit noticeably free from russet.

Preparing Bordeaux Mixture.

THE PHYSICAL PROPERTIES of Bordeaux spray are effected by the methods employed in mixing the solution to copper sulphate and lime and play an important part in affecting its adhesiveness and its ability to form an effective protective cover.

There are nine possible methods of mixing this ingredient, namely, by pouring—(1) Concentrated copper solution into diluted lime solution, (2) Concentrated copper solution into concentrated lime solution, (3) Diluted copper solution into diluted lime solution, (4) Diluted copper solution into concentrated lime solution, (5) Equal dilutions of both simultaneously into a third vessel, (6) Concentrated lime solution into diluted copper solution, (7) Concentrated lime solution into concentrated copper solution, (8) Diluted lime solution into diluted copper solution, (9) Diluted lime solution into concentrated copper solution.

The quality of the spray is affected by the quality of the ingredients. Copper sulphate should be 98 per cent. Quicklime should have a low magnesium content, reasonably free from earth and sand. Hydrated lime should be practically free from impurities such as sand or earth, should be fresh and sold in containers which exclude air and moisture. The particles should be in an extremely fine state of division (95 per cent. to pass a 300 mesh sieve or in which 90 per cent. will remain in suspension for three hours).

Experiences during the past three seasons have shown that the heavy applications of former years (10-10-40, 8-6-40) are unnecessary, and that excellent results have been secured with the 5-4-50 formula for winter applications and 3-4-50 for summer use. Consequently these are recommended until further experimental work justify their modification.

Burgundy mixture is prepared similarly to Bordeaux, save that washing soda is used in place of lime. Formula 4-5-40.

The introduction of hydrated lime has made the preparation of Bordeaux mixture as simple as that of Burgundy; consequently, as the latter is inferior to Bordeaux in several respects (being more liable to cause injury when used as a summer spray, especially if mixed with lead arsenate), there is no valid reason why it should any longer occupy a place in the spray programme when hydrated lime is available.

Hydrated Lime Bordeaux.

The object of slaking quicklime is to produce hydrated lime. It is possible to avoid the labor of slaking by using as a lime source prepared hydrated lime. The type recommended is the commercial

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article which, if properly prepared, is in the form of a fine powder practically free from lumps and impurities, and containing a calcium hydroxide content of at least 90 per cent.

The advantages of using the commercial product are that the necessity for slaking is avoided, with its consequent waste of time and material, as the orchardist has but to weigh out a given quantity, mix with water to form a thin paste, and add to the spray tank; and that the particles are in an extremely fine state of division, a factor which materially affects the physical qualities of the spray.

Hydrated lime should be stored in a dry place, since it is prone to cake if exposed to undue moisture, and be kept where possible in sealed containers, since on exposure to the air it reverts slowly to the form of carbonate. Reversion is slow, however, for we have found that a good-quality material contained but 10 per cent. of carbonate when stored for six months in open 4-gallon petrol-tins.

Recommendations for the Use of Copper Sprays.

Finality has not been reached in improving copper sprays, but pending further experiments, it is inadvisable to make recommendations other than those based on results secured in the past. These results show that, of the copper series, Bordeaux mixture is the most efficient spray; consequently recommendations will be confined to the application of this spray under New Zealand conditions.

Growers may use hydrated lime Bordeaux in preference to quicklime Bordeaux with every confidence, since in our experiments of the past three seasons it has given equally efficient results, and has the added merit of being much easier to prepare. Since 1 lb. of quicklime is equivalent to 1.32 lb. of hydrated lime, some variation in the recommended formulae might be expected with the replacement of quicklime by hydrated lime. Experience has shown, however, that owing to the finer state of division and greater purity of the hydrated lime the same formula may be used for either hydrated lime or quicklime Bordeaux mixture.

The following formulae are recommended until such time as they may be improved by further experiments: 5-4-50 for dormant or semi-dormant applications, and 3-4-50 for summer use.

To prepare Bordeaux mixture, fill the spray tank about three parts full with water; dissolve the required quantity of copper sulphate in water (5 lb. for each 50 gallons of water), add to the tank, and start the agitator running. The copper sulphate may be dissolved with rapidity if hot water is used (5 lb. will go into solution in a minute or so in 1 gallon of boiling water), or, if first powdered, may be added directly to the spray tank, in which case it will go into solution within two minutes. When the dissolved copper sulphate has been added to the tank, weigh out the required quantity of hydrated lime (4 lb. for each 50 gallons of water), mix to a thin paste with cold water, and with the agitator still running pour slowly into the tank, at the same time filling the tank to its capacity. Keep the agitator running for a further few minutes, and the spray is then ready for application.

As a foundation spray in the control of black spot of Apples, one application only of 5-4-50 Bordeaux is recommended to be applied at green-tip, this being preferable to lime-sulphur. For black spot of Pears, two applications of this strength may be used, one at green-tip, a second at pre-pink; and further applications of Bordeaux 3-4-50 may be made at intervals through the growing season.

Where black spot is absent but powdery mildew prevalent, the use of lime-sulphur is advised, since Bordeaux mixture will not combat the latter disease.

Brown Rot Control.

For control of brown rot, leaf curl, and other fungous diseases of stone fruits, one application (or preferably two) of 5-4-50 Bordeaux at bud-movement is recommended. As bud-movement

Better Apples by Better Spraying

MANGANAR and AGRAL 1

Manganar vs. Codlin Moth

Manganar is a non-lead insecticide for the control of Codlin Moth and other leaf-eating insects. Manganar can be used in combination with Summer Oils, Nicotine, Summer Oils-Nicotine combinations, Bordeaux, Lime, or Sulphur sprays.

Agral 1 is an entirely new and outstanding wetter and spreader. It mixes with practically every spraying material, and, unlike soap, can be used at the ordinary strengths with hard water. It has an activating effect on most insecticides and fungicides. Used in combination with Manganar, Agral 1 will give excellent results in your efforts against many plant diseases.

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is often difficult to define, and varies somewhat with different varieties and in different localities, even in the same orchard, it is preferable to use two close ratio applications at this strength, the first at pre-bud movement, the second at post-bud movement. If varieties are highly susceptible to brown rot or leaf rust, and moderately resistant to leaf curl, it is advisable to use a lime-sulphur spray in addition to Bordeaux. For although Bordeaux is the most effective controllant of leaf-curl, shot-hole, bladder-plum, die-back, and certain other diseases, it is not as effective as lime-sulphur (or colloidal sulphur) against brown rot, and is practically worthless against leaf-rust.

For diseases of Potatoes and Tomatoes, Bordeaux 5-4-50 should be used if the season is a wet one or where late-blight is prevalent, otherwise use 3-4-50.

For control of citrus verrucosis of citrus fruits it has been found in the United States that a Bordeaux and oil combination gave more satisfactory results than Bordeaux alone; add a 1 per cent. solution of emulsified oil to the Bordeaux. In New Zealand successful results have been secured with a 1 per cent. solution of a white or summer oil added to a 3-4-50 Bordeaux mixture. The combination is prepared by pouring the oil emulsion slowly into a full tank of Bordeaux while the agitator is running. The agitator must be kept running until the tank has been emptied, as the oil separates from the Bordeaux if the mixture is allowed to stand. This combination will also combat insect pests, such as scale insects, of Lemons and Oranges.

Cheshunt compound may be used with safety in the form recommended as a controllant of damping-off in seed-boxes, or as a preventive of fusarium-wilt if this appears in Tomatoes grown under glass.

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LIME SULPHUR AS A SPRAY

Vital Importance of Polysulphide Content

APPRECIATION has been expressed by readers of the "Fruit World" for the publicity given to the importance of the polysulphide content of lime sulphur as the toxic agent, as opposed to the specific gravity test. Dr. G. H. Cunningham, B.Sc., Mycologist, Plant Research Station, Palmerston North, N.Z., recently compiled the following detection table for lime sulphur sprays :—

Polysulphide Content of the Concentrate in Percentages W/W*	Volume of concentrated Lime-Sulphur required to prepare 100 gallons of spray containing a Polysulphide content of— 1%	0.5%	0.2%	0.1%	0.083%
8	12 gal. 4 pints†	6 gal. 2 pints	2 gal. 4 pints	1 gal. 2 pints	8 pints 6 oz.
9	11 gal. 1 pint.	5 gal. 4½ pints	2 gal. 1¾ pints	1 gal. 18 oz.	7 pints 8 oz.
10	10 gal.	5 gal.	2 gal.	1 gal.	6 pints 13 ozs.
11	9 gal.	4 gal. 4 pints	1 gal. 6½ pints	7 pints 4 oz.	6 pints
12	8 gal. 2½ pints	4 gal. 1 pint	1 gal. 5¼ pints	6 pints 13 oz.	5 pints 10 oz.
13	7 gal. 5½ pints	3 gal. 6¾ pints	1 gal. 4¼ pints	6 pints 3 ozs.	5 pints 2 ozs.
14	7 gal. 1 pint	3 gal. 4½ pints	1 gal. 3½ pints	5 pints 14 ozs.	4 pints 15 ozs.
15	6 gal. 5 pints	3 gal. 2½ pints	1 gal. 2½ pints	5 pints 7 ozs.	4 pints 9 ozs.
16	6 gal. 2 pints	3 gal. 1 pint	1 gal. 2 pints	5 pints	4 pints 3 ozs.
17	5 gal. 7 pints	2 gal. 7½ pints	1 gal. 1½ pints	4 pints 14 ozs.	3 pints 18 ozs.
18	5 gal. 4 pints	2 gal. 6 pints	1 gal. 1 pint	4 pints 9 ozs.	3 pints 14 ozs.
19	5 gal. 2 pints	2 gal. 5 pints	1 gal. ½ pint	4 pints 4 ozs.	3 pints 10 ozs.
20	5 gal.	2 gal. 4 pints	1 gal.	4 pints	3 pints 5 ozs.

References.

* Taken to the nearest whole number: Thus 10.35=10 per cent., 10.60=11 per cent. This table is applicable only when the polysulphide content has been given in percentages by weight.

† Given in Imperial gallons, pints and fluid ounces.

To prepare 100 gallons of spray, half fill the spray tank with water, add the required volume of concentrated lime-sulphur, then fill the tank to the 100 gallon mark. To prepare a small quantity of spray, as 4 gallons (the capacity of a benzine tin) multiply the number of pints by 20, and divide by 25. This will give, in fluid ounces, the required quantity of concentrated lime-sulphur.

Re-working Fruit Trees

Plug Graft — Bark Graft — Budding

It is necessary now to change over unprofitable varieties to commercial sorts.

UNDER the auspices of the Victorian Fruit Marketing Association, and the Harcourt Field Day Committee, a highly successful field day was conducted at the orchard of Messrs. J. B. Smith & Son, at Harcourt, on August 21. About 200 growers were present.

Demonstrations of reworking were given by Messrs, Greatorex and Thomlinson, Orchard Supervisors, Dept. of Agriculture.

In the evening, Mr. E. E. Pescott, Pomologist, gave an illustrated lantern lecture on the subject of reworking fruit trees, and was cordially thanked.

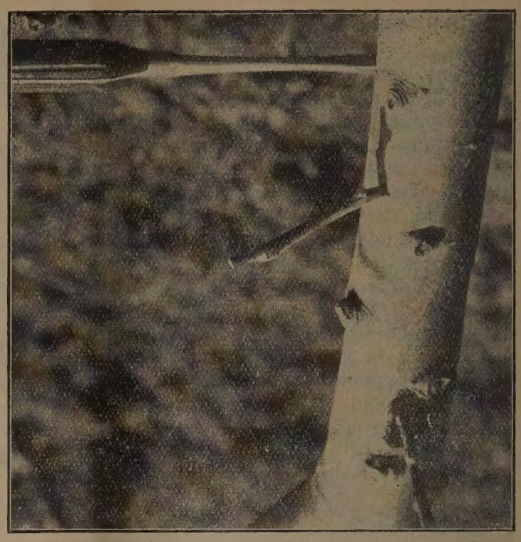
Reworking Methods Described.

The methods of reworking fruit trees, as demonstrated, were those recently described by Mr. J. M. Ward, Supt. of Horticulture, as follows:—

The old method of cutting an Apple or Pear tree hard back almost to the tree trunk for reworking purposes, is a costly business, and orchardists cannot afford to wait for four or five years or longer for the newly reworked tree to produce a crop of the desired kind. Further, an Apple tree cut hard back often becomes attacked by the widely spread fungus Polistictus versicolor which, in many cases, proves disastrous to the tree.

Under the new method, — instead of cutting the Apple or Pear tree hard back to within two to four feet of the ground, the main limbs have most of the branches removed until such main arms more or less resemble bare poles. These are also slightly reduced in length, by say two or three feet, and these are refurnished with numerable scions or grafts of the kind to be worked on to the old variety over the whole of each main arm.

Preparing Scions. 1—Plug Graft (side view). 2—Plug Graft (front view). 3—Side Graft (about half an inch of bark is cut off on the other side to give a wedge point and a thin piece off the edge which is to contact with the cambium of the tree).



Inserting Plug Graft. Note square end of scion enabling same to be tapped into position.

Photos by courtesy, P. H. Thomas, Hobart.

There are various methods of carrying out this refurnishing, and it is done by either or both **budding or grafting.** For instance, instead of reducing the main arms to bare poles, a number of laterals or side growths are allowed to remain, and on to these, scions are grafted by using the "whip-tongue" graft. When there are insufficient of these, scions are inserted into the old wood. These scions are placed at intervals of about twelve inches to fifteen inches apart on the right and left of the main arm. The scions can be inserted in two different ways, one by what is known as the plug-graft, and the other, by the bark-graft. Both systems are favored by some growers; but the bark-graft is preferable to the plug method.

Plug grafting

is carried out by using a chisel about three-eighths of an inch wide and driving it diagonally through the bark and wood of the limb for a distance of about three-quarters of an inch to an inch. The scion is cut wedge-shaped at one end and inserted into this until a good fit is made; it is then sealed and made waterproof by the use of such material as grafting wax, a thick petroleum jelly, or bitumen emulsion (there are a number of proprietary mixtures for this purpose on the market).

As in all grafting, it is essential that the bark of both stock and scion are brought into contact with each other, thus enabling the cambium layer of both to unite.

One of the drawbacks to refurnishing by means of the plug graft is that usually one obtains only about 50 per cent. of success; and in places where no "take" occurs a nasty scar remains and becomes a home for disease. Then again, it is very doubtful if a really good union is made between stock and scion, and there is every probability of the new growth breaking away a few years hence when such growth is carrying good crops.

The bark-graft

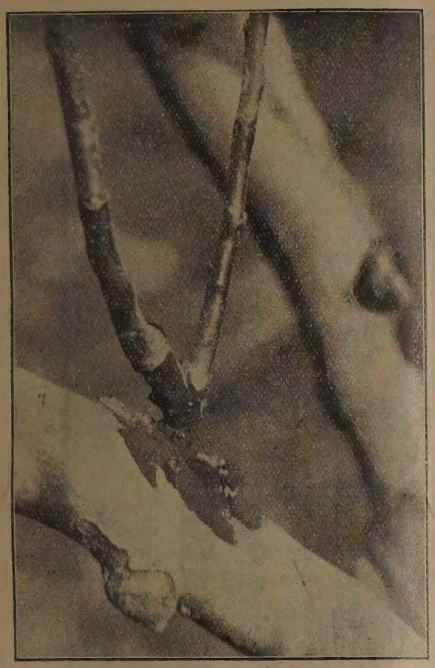
is used more extensively, and apparently more successfully than the plug-graft; and generally speaking growers have a preference for the bark-graft over that of the plug-graft.

The procedure adopted for the bark-graft is to make an inverted L-shaped cut on the side of the limb to be grafted, and the scion, prepared in a similar manner for that used for the plug graft, is inserted at the corner of this inverted L cut, and it is then secured to the stock by driving a fine tack through the scion into the tree; the union is then made waterproof by the use of grafting wax, etc. Union takes place, and it is not very long before the scion becomes an essential part of the tree, and very little, if any, scar can be seen two or three years after grafting.

The Budding System.

The third method adopted for refurnishing an unwanted with a desirable variety is by budding. As in all budding, young growth is essential. In this

Side Graft. A small copper tack is sometimes used to hold the scion into position.



Side Graft covered with bitumen as waterproofing agent.

respect the current year's wood is used. **The old tree is prepared by stripping it of all side branches during the dormant season, and in the spring excellent lateral growth occurs; the best of these are selected at the desired distances apart and all other growth removed. Buds of the required variety are inserted during December, January and February.**

The early buds may make good growth the same summer, but most of them will not start until the following spring; whereas the grafts usually make exceedingly good growth a few weeks after the operation is performed, and by the end of the growing season may have from two to three feet of sturdy growth including a few fruit buds which will produce fruit the following spring.

As one cannot always complete refurnishing operations in the spring by grafting, the work can be continued by budding later.

Refurnishing by budding or a combination of budding and bark-grafting is greatly recommended for Apples, Pears and Plums.

One thing much in favor of the refurnishing system is that the tree is in a position to produce a good crop of fruit two years after the change over of the variety takes place, whereas four to six years are required by the old system of cutting the tree down to within two to four feet of the ground. The first two or three crops of Apples produced by the old system are usually overgrown and often pitted, and therefore unsuitable for export.

Admittedly the new practice is a slow one so far as the actual work is con-

(Continued in third column of this page.)

Is Thrips Plague Likely This Year?

Last Autumn Conditions Unfavorable for Thrips Development

First "Spring Rise" Likely to be Small. Influence of Weather Conditions.

Thrips Investigation League has Developed a Promising Repellant.

MANY FRUITGROWERS are asking: "What is the likelihood of a thrips plague this season?"

On referring this enquiry to Dr. Davidson, Chief Entomologist, Waite Research Institute, Adelaide (who is also in charge of the Thrips Investigation), he replies as follows, under date August 11:—

With regard to the possibility of thrips plague in 1934, the daily records of the numbers of the Apple thrips in the selected centres in Victoria during the past year, have now been analysed.

The relationship of weather to the numbers of this species occurring in spring (early October during the period of the flowering of the Apple) is as follows:—

This insect increases in numbers in the autumn; this is referred to as the **autumn rise.** The numbers decrease as autumn advances owing particularly to unfavorable temperatures; the active insects are rare during mid-winter in the Apple-growing districts of Victoria.

The numbers increase in early spring, due to favorable temperatures; this is referred to as the **first spring rise;** it is due to the resumed activity of adults which have remained dormant during the winter, and to the emergence of adults from nymphs.

The number of thrips present in the first spring rise depends upon the numbers present in the previous autumn rise, and the survival rate during the winter.

The first spring rise is followed by a later increase in numbers; this is referred to as the **second spring rise.** The period when the second spring rise occurs and the numbers of thrips composing it, depend upon favorable rainfall and temperature in spring, and the numbers of thrips present in the first spring rise. If the first spring rise occurs early in spring and the numbers of thrips are relatively large, an infestation may be expected if the subsequent weather in the spring is favorable. With favorable weather and warm temperatures, the insects will develop rapidly and the numbers of individuals which survive will be high. Under these conditions the second spring rise may coincide with early October at a time when the Apple is blossoming, and the numbers of thrips will be large.

The autumn rise in 1934 in districts round Melbourne occurred during the third week in May; the numbers of thrips were small.

From this information it seems probable that the numbers of thrips in the first spring rise this season in Victoria, will be relatively small.

At the present stage of our investigations on the behaviour of the Apple thrips during winter, it will be necessary to wait until the first rise develops next spring before a definite opinion can be given on the degree of infestation which may occur later. From the date of the occurrence of the first spring rise and the number of thrips then present, it will be possible to express an opinion on the chances or otherwise of an infestation of thrips next spring.

* * *

Thrips Investigation League.

[It should be mentioned that in addition to the foregoing type of study, a definite technique is being sought to repel thrips from fruit blossom at the critical stage.

The results with repellants are so far promising.

MONEY available for ORCHARDISTS, BERRY FRUIT GROWERS, etc. Temporary PRIVATE LOANS, Lowest Interest. Repayments to suit, any reasonable security. Confidential. No obligation. Personal application only.
SPECIALTY INVESTMENTS, 89 Collins St. Melbourne, C.1. Cent. 2643

The importance of the work of the Thrips Investigation League cannot be over emphasised.

Funds are still urgently needed, however, if the three year investigational programme is to be completed.

Growers and all interested are urged to regard this as a personal matter. Contributions should be sent to the Secretary, Thrips Investigation League, Box 1944, G.P.O., Melbourne.]

REWORKING FRUIT TREES.

(Continued from 1st column.)

cerned, but the results are infinitely superior and a better commercial proposition.

One rather annoying factor about this method of refurnishing is that shoots from the old variety require removing at frequent intervals for the first year or two, but after this the growth from the new scions or buds will outgrow the other and little trouble is then met with.

VALLO

Patent Codlin Moth Tree Bands

Certain Death to All Grubs That Attack Fruit Trees

It is estimated that of all Codlin Moths more than 60% are females and that a female moth lays as many as 50 eggs. On the assumption that only 50% of the eggs are fertile, a kill of 100 grubs in a tree band is definitely responsible for the prevention of 2,000 moths in the first year.

The above photograph (shows the actual size) inner side of an 8-inch section of "Vallo" Patent Codlin Moth Tree Bands in which 60 or more dead grubs or caterpillars can be seen. This, however, does not represent the full number of the kill, as this photograph shows only one set of corrugations. The Band is actually a double trap as it not only traps the grubs in the corrugations lying immediately next to the trunk of the tree (as shown above) but a similar number are trapped and killed in the second series of small passages which are formed by the smooth outside section of the Band against the corrugated section.

Your Orchard is not adequately protected until fitted with "VALLO" Patent Codlin Moth Tree Bands.

Manufacturers : **VICTOR LEGGO & FARMERS LIMITED**

222 QUEEN STREET, MELBOURNE

BRANCHES: SYDNEY — BRISBANE — ADELAIDE — PERTH

CODLIN MOTH CONTROL.

Value of Chemical Bands.

Mr. C. F. Cole (Senior Orchard Inspector) recently advised Victorian growers to use chemically treated bands for Codlin Moth.

Mr. Cole stated that every tree above a certain age should have these bandages, which could be left on the tree during the whole of the fruit season.

The bands should be placed around the butts of the trees, with the grooved side against the bark of the tree, and held in position by a large flat-headed one-inch tack.

Mr. Cole stated that many growers had used this band with great success, in many cases 100 per cent. kill being achieved.

APPLES AS NON-REFRIGERATED CARGO.

The Consul-General for the Netherlands has advised the Commonwealth Commerce Department that the shipment from Australia of Apples in non-refrrigerated space on s.s. "Aaagtekerk" last season was in many respects satisfactory. The hope is expressed that the Australian Apple and Pear Export Council will not press for the prohibition of Apples as non-refrigerated cargo, as this new method effects considerable savings in freight.

FEDERAL SUBSIDY ON FERTILISERS.

In 1932-33, a sum of £250,000 was provided by the Federal Government to assist farmers in the purchase of fertiliser used in connection with the growing of crops other than wheat. The subsidy was at the rate of 15/- per ton on fertiliser applied to the soil during the period December 1, 1932, to November 30, 1933.

The Government is satisfied that the benefits which accrued from the payment of the subsidy justify its renewal. It has, therefore, been decided to provide for a subsidy on the same basis in respect of fertiliser applied to the soil during the period July 1, 1934, to June 30, 1935.

The sum of £250,000 has been allocated for this purpose, of which £200,000 is provided in the estimates for 1934-35, and £50,000 will be payable in the following year.

Manurial tests by the Research Committee of the South Australian Fruit Marketing Association show that 6 lbs. of sulphate of ammonia in September was better than by dividing the applications into 3 lbs. in May and 3 lbs. in September.

Sulphur As A Fungicide

A Discussion on Colloidal Sulphur — Can Trees Absorb Sulphur Through the Sap?

(By Our Murray River Correspondent.)

ALTHOUGH sulphur has been in use as a fungicide for a very long time, little research work has been done on the possibility of applying sulphur so that it may be assimilated by the plant itself through the sap flow, or if any chemical action occurs, which might possibly account for benefits obtained by practical growers in this respect.

For instance, Sir Herbert Phillips treated Apricot trees with sulphur, by boring a hole with 1½ in. auger and filling this up with sulphur and plugging it to exclude air, with the result that he has entirely freed his trees of "shot hole." Mr. Grasby, also of Adelaide, obtained the same result by the application of sulphur around the tree and digging it in.

The quantity used by Mr. Grasby amounted to 4 to 5 lbs. per tree, and the results obtained were the same as those obtained by Sir Herbert Phillips.

Chemists tell us that the plant is only able to absorb sulphur in the form of sulphate, and that there is little possibility of its transfusion through the sap flow in any form excepting in the form of sulphate. However, there is evidently more in it than meets the logic of the practical grower, and the plant pathologist or botanist may yet discover the mysterious workings of sulphur and its action on the system of the plant in being able to ward off attacks of certain fungoid diseases such as "shot hole."

Up to the present time nothing authentic has been traced to the possibility of applying sulphur to the soil, in an endeavor to mitigate an attack of Erinosis or oidium of the vine, so that for the present we must confine our attention to the application of sulphur to the leaf surface in combating the two above mentioned afflictions. The respective merits of powdered sulphur as against sulphur being used in solution for combating these diseases, has been a subject of special consideration in the Geneva Experimental station of New York, U.S.A., in recent years.

In some of the experiments it was found that sublimed sulphur, and finely ground sulphur, only became effective as long as the sulphur remained on the leaves, and that within a week upwards of 80 per cent. of the application had been removed by the action of the wind. The effectiveness remained a little longer if a dusting were followed by a comparative calm, or if the application was made while the leaves being still damp with dew, or light rain. The effectiveness depended entirely on the fineness of particles. It was further found that the effect of lime sulphur sprayed on the leaves had a longer period of effectiveness than either of the sulphur dusts used.

The whole subject of sulphur and its application to plants is a most interesting one, and one which has been treated by Dr. G. H. Cunningham, Mycologist to the N.Z. Govt. in a recent publication of the N.Z. Journal of Agriculture, and freely quoted by Australian papers.

Of special interest to Australian growers is the possibilities of colloidal sulphur, the particles of which are infinitesimal as compared with other forms of sulphur. Some idea of comparative fineness may be gauged by photographs taken through a microscope. Colloidal sulphur takes on the appearance of fine pepper as against sublimed and ground sulphur in sizes of ¼ in. to ½ in. diameter, and when we consider that the fungicidal effectiveness of sulphur depends entirely on the fineness of particles, colloidal sulphur appears destined to play an important part wherever sulphur is used. Colloidal sulphur has been used in the Dominion for the past three years in the control of powdery mildew and black spot of Apples, and since its introduction has almost completely superseded the coarser sulphurs.

Dr. Cunningham states that during the past season colloidal sulphur, at a reduced strength of 2-1,000, gave almost complete control of powdery mildew and red mite in one locality where lime sulphur failed to hold it in check.

In the irrigation areas of the Murray, many tons of sulphur in powdered form is applied every year to combat oidium, with results that are far from satisfactory in a bad year. The possibilities of colloidal sulphur are so encouraging that a limited quantity is to be tried by various growers in this locality this season with the hope that the laborious dusting operations now in vogue can be dispensed with.—"Nemo."

The Income Tax Again.

They were discussing their bad luck. "Do you know, Tom," said one, "My luck is so dead out that if I threw a £1 note into the air it would come down an Income Tax demand note."

Bitter Pit in Apples

Gravenstein Principally Affected in California

:: :: ::

What is the Effect of Nitrogenous Fertilisers.

THE following letter, which has been received by Mr. W. M. Carne, Council for Scientific and Industrial Research, from Mr. F. W. Allen, Associate Pomologist of the College of Agriculture, University of California, will be of interest to Australian growers:—

"I have your letter of June 12, and believe that you have a very good idea of the bitter pit situation here in California.

"It is, I believe, our most serious trouble with Gravenstein Apples, but is not particularly serious on other varieties. Occasionally it develops in considerable amount of the Yellow Bellflower. This variety, however, is largely used within the State and hence is rarely seen either in the larger markets of this country or in any of the world markets. The Gravenstein is practically the only Californian variety which is exported from California.

"I am not aware of any great improvement in the bitter pit situation in the last few years. Here at this Station we have been advocating that the fruit be harvested

somewhat more mature

than formerly, and this may, in part at least, be responsible for a slight reduction in bitter pit development.

It is also a popular opinion among Gravenstein growers that bitter pit is induced somewhat by heavy applications of nitrogenous fertilisers. In previous years it has been quite common for our Gravenstein growers to fertilise their orchards with heavy applications of poultry manure. During the last few years there has been a tendency to get away from this practice. Just what influence this has had on bitter pit development I am unable to say. During the past two years we have carried on some experimental work here at the University Farm, where we have fertilised a number of trees over a period of two seasons, using 100 pounds of ammonium sulphate per tree per year. We have been unable to see that this very heavy application of nitrogen has induced bitter pit development.

"We have likewise tried to reduce nitrogen content in the soil by heavy applications of sugar, and have likewise secured indifferent results. In general, therefore, I believe that the bitter pit situation has improved little, if any, naturally being less severe in some years than others."

Before the Depression.

"Hullo, Tom! Got a new car?"

"Yes. I went into a garage to use the 'phone, and I didn't like to come away without buying something."

Obituary.

We regret to learn of the death of Dr. Leonard Cockayne, F.R.S., the well-known horticulturist and botanist, who passed away in July.

Dr. Cockayne received many awards and distinctions, including the Darwin Medal. He was elected a Fellow of the Royal Society by the First New Zealand President, in 1912, and very recently he was elected a Fellow of the Royal Botanical Society of Edinburgh. The Hon. Ph.D. of Munich University, was also held by him.

Dr. Cockayne possessed a fine forceful character and a strong personality which served as a wonderful inspiration to all who knew him.

It is with regret that we announce the death of Mr. August Pellas, who passed away on August 23, at the Ballara Private Hospital, Castlemaine. Mr. Pellas was 63 years of age. He has been a resident at Harcourt for the past thirty years.

Mr. J. Vick, 73, a native of the Harcourt district, and an orchardist for many years, passed away at Castlemaine on August 1. His father established one of the first orchards in the district, and the late Mr. Vick helped to carry it on.

CLASSIFIED ADVERTISEMENT

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Chilean Nitrate of Soda

The Ideal Form of Nitrogen for Citrus

Improves Quality—Increases Yield

A spring dressing of Chilean Nitrate of Soda just prior to bud bursting promotes growth and ensures a maximum setting of fruit.

It is cheap, easy to handle, completely soluble, and supplies nitrogen in the exact form required for plant nutrition.

Its effects are entirely beneficial, and, unlike other nitrogenous fertilisers, **it does not increase the acidity of the soil.**

The new granulated form of Chilean Nitrate of Soda has a guaranteed purity of over 98 per cent., and contains more than 16 per cent. nitrogen.

Always insist on **Chilean Granulated Nitrate of Soda.**

There is no substitute.

Ask your merchant for a sample and price, or communicate with

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VICTORIA — Association Reports . . . Items of Interest

Fruit Crop Prospects.

Apple Tree Buds Presage Good Crops.

The welcome rains in many Victorian fruitgrowing districts provided needed opportunities for cultivation, and also benefited green manure cover crops, states the latest report from the Dept. of Agriculture.

Continuing, the report states that district reports are most favorable for a normal blossoming of most kinds of fruits. Prunes and Plums having lightly flowered out of season in some districts are expected to be below normal for the spring. The blossom buds on most of the leading export varieties of Apple and Pear trees are plump and healthy; and if conditions prove favorable in the spring, a normal crop can be expected. In many orchards the flowering promises to be heavier than that of the past spring.

Tar distillate spraying for the green Peach aphis has been fairly general this season. Growers are beginning to recognise the value of this winter wash as an ovicide spray.

Orchards where the San Jose scale is known to exist are receiving attention with a view to eradicating the pest.

It is reported hat 66 per cent. of the Apple and Pear trees in the Bendigo district are to be chemically bandaged to assist in the control of codlin moth for the coming fruit season.

E. Burwood.—Meetings of the E. Burwood Fruitgrowers' Association are held on the second Thursday in each month. The president is Mr. Geo. Mock, and the secretary Mr. G. C. Karnaghan.

Castlemaine.—Mr. L. Stevens has been appointed secretary of the Castlemaine Agricultural Society, which has just been formed. The following were appointed to the general committee—Colonel James, Messrs. S. Beck, S. Cocking, H. and T. Moon, C. Delmenico, H. Leversha, J. Esco, Lewis, and R. Dawson. Mr. J. Barry was appointed assistant secretary.

Early November, 1935, has been suggested as a tentative date for the show, and an endeavour is being made to have the Old Boys' Reunion altered to coincide with the show.

Doncaster. — The Doncaster Fruitgrowers' Association is performing good service for its members and for the industry generally. The office-bearers who were all re-elected from the previous year, are: President, Mr. W. A. Webb; Vice-Presidents, Messrs. J. J. Tully and E. H. Zerbe; Committee, Messrs. V. Lawford, W. A. Thiele, H. G. Clay, J. F. Thiele and F. A. Bloom; Treasurer, Mr. E. I. Lawford; Auditor, Mr. E. H. Zerbe, Secretary, Mr. G. S. Grover.

At the monthly meeting on August 14, Mr. W. A. Webb presiding, the quarterly report from the Chamber of Commerce was received, also the monthly report of the meeting of the Southern Fruitgrowers' Association executive. An address on the new local Fruit Marketing Association was given by Mr. R. E. Boardman, who was accorded a vote of thanks.

Meetings are held regularly on the second Tuesday of each month.

The next meeting will be held on September 11, at the Athenaeum Hall, Doncaster.

FIELD DAY AT VERMONT.

Thursday, September 20.

Under the auspices of the Victorian Fruit Marketing Association and the newly formed Victoria Mark Fruit Co., a field day will be held at the orchard of Mr. F. G. Beet, at Railway-road, Vermont, on September 20, at 2 p.m.

Demonstrations on the reworking of fruit trees will be given by officers of the Department of Agriculture. In the evening, at the Mechanics' Institute, Mr. E. E. Pescott will give an illustrated lantern lecture, showing the reworking of fruit trees. Full details will also be given regarding the scope of the Victoria Mark Fruit Co.

A demonstration of reworking by the new method of grafting at J. B. Smith & Sons orchard, at Harcourt, Vic.

Harcourt. — Prospects indicate that there will be an even greater yield at Harcourt than that of the 1932-33 season, when almost a million bushels of all fruits were produced. The buds are showing up well, and Apples and Pears especially should give a very good crop.

Harcourt.—The field day at the orchard of Messrs. J. B. Smith & Son, Harcourt, on August 21, was entirely successful, about 200 growers attended. Addresses on the re-working of fruit trees were given by Messrs. J. M. Ward and E. E. Pescott, and demonstrations were given by Messrs. Greatorex and Thomlinson.

There was a demonstration of orchard implements by D. Harvey.

Great interest was displayed in the Petty Plough, invented by Messrs. A. F. and H. Petty, of Doncaster.

The Lightning Co. also had a comprehensive display of orchard implements.

Messrs. R. E. Boardman and G. McDonald urged the importance of the new

Mr. F. Greatorex reworking by grafting, at Harcourt, Vic.

Victoria Mark, organisation for dealing with the standardisation and advertising of fruit and for utilising lower grade fruit in by-products.

At the complimentary dinner, the chairman of the Field Day Committee, Mr. W. Eagle, Jr., and Mr. J. Ely, spoke appreciatively of the Victorian Fruit Marketing Association. A cordial welcome was tendered to Mr. H. Barnes, Director of Fruit Culture, Brisbane.

In responding, Mr. Barnes expressed surprise and pleasure at the large attendance and the interest displayed.

Merbein.—The State Rivers and Water Supply Commission recently advised the Merbein Water Advisory Board that they did not intend to proceed with the work of installing an additional pumping unit at Merbein, as when a ballot was taken, 52 growers voted for the proposal and 149 against it. The Board considered that the extra unit was necessary.

The instalment of an extra unit would have increased the water charges by 6/6 per acre per annum.

Merbein Drainage Scheme.—At a recent meeting of irrigators at Merbein, Mr. A. J. Chislett stated that the Minister of Water Supply was waiting for the Merbein growers who had not taken action to approach the Commission, asking that work in their section be undertaken. Mr. G. J. Hyndman said that they were aware that the growers were expected to find £5 per acre for drainage costs, but they did not know how the payments were to be spread.

Appreciation was expressed for the services of the Merbein Water Advisory Board.

Panton Hill.—Mr. S. S. Craknell presided over the monthly meeting of the Panton Hill and District Fruitgrowers' Association on August 2, 1934.

A letter was received from the Horticultural Division, Department of Agriculture, reporting on fruit shipments to U.K. in the 1934 season. The concurrent arrival of several steamers glutted the market. The market prices for sound Pears were satisfactory. There was a fair amount of case bruised fruit, and the use of strawboard on the four sides was strongly recommended.

Victoria Mark Scheme.—Consideration was given to the new proposals for organising growers under the Victoria Mark Fruit Scheme. It was decided to request the attendance of the Acting Secretary or members of the provisional committee at a meeting on September 6.

Satisfaction was expressed at the result of the deputation to the markets committee, and that more stands will be made available to growers in the Victoria Market.

It was decided to send a letter of sympathy to Mr. D. Shanhun, orchardist, of Panton Hill, whose residence was recently destroyed by fire.

Pakenham.—Over 150 growers attended at Mr. J. J. Ahern's orchard on August 28, at the field day, under the auspices of the Victorian and Gippsland Fruit Marketing Associations. Demonstrations on the reworking of fruit trees were given by Messrs. Greatorex and Davidson, of the Dept. of Agriculture. Pruning demonstrations were given by Messrs. T. Fuller, J. W. Bailey and S. Brown.

Mr. D. Harvey displayed the Petty Disc Orchard Stripping Plough, which created much attention.

In the evening, Mr. E. E. Pescott, Pomologist, Dept. of Agriculture, gave an illustrated lantern lecture showing the reworking of fruit trees. Messrs. R. E. Boardman and G. McDonald gave details of the Victoria Mark System for standardising and advertising Apples and Pears. The need for an adequate census of fruit production was emphasised. Poorer grade fruit would be used in by-products.

Mr. Ahern's Orchard. Mr. J. J. Ahern has an 18-acre Apple orchard on undulating ground. The principal varieties are Jonathans, Yates, Granny Smith, Delicious and Rokewood. Peas are grown as a green manure crop for ploughing under in the spring. The soil is a granitic loom, having a depth of 14 inches before reaching the clay subsoil.

Mr. Ahern has kindly made his orchard available on previous occasions for

NEGLECTED ORCHARDS ARE A MENACE!

COMMERCIAL GROWERS have frequently directed attention to the menace of the cottage orchard and the neglected orchard as breeding places for pests. The menace is a very real one and commercial growers are within their rights in requesting that adequate steps be taken by the Government to remove these pest-breeding centres.

Growers are put to serious expense in spraying and other methods to control pests which breed so freely in neglected orchards.

The economic waste is enormous and the whole community suffers. In any self-respecting community the presence of disease-breeding areas should not be tolerated: the power for a requisite action must rest somewhere and the responsibility for having a neglected orchard can invariably be sheeted home.

The whole community, including the commercial fruitgrower, has a right to expect prompt and authoritative action to clean up the present unsatisfactory position.

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field days and demonstrations, and his services in this connection are highly esteemed.

Visitors from Bairnsdale.

At the Pakenham Field Day, growers attended from long distances. Those from Bairnsdale included Mr. R. C. Matthews (Palmer & Co.), secretary of the Bairnsdale Fruitgrowers' Association, Mr. R. Overy and Mr. G. Harmes. These Bairnsdale growers have been "doing their bit" towards organisation. After providing for export, they standardised the remainder, fixed a local price, and "cut out" the inferior grade by feeding it to pigs. Arrangements have been made for cold storing fruit at the local butter factory.

Mr. W. H. Brown has a 20-acre orchard at Upper Beaconsfield, and another 16 acres at Upper Pakenham. Apples are mainly grown, the varieties being Jonathan, Yates, Granny Smith, Romes, Rokewood, Delicious, Shoreland Queen, and Cox's Orange. The soil is of a granitic character. High-quality fruit is produced, and the fruit is well packed. A Lightning Grader is installed.

Red Hill.—There was a large meeting of growers on August 3. Mr. H. Jarman presided.

The new organisation for the marketing of Victorian fruit was explained by Messrs. F. Cave, W. A. Thiele, G. McDonald, H. Clark and F. G. Beet.

Numerous questions were asked and answered. In reply to one question, Mr. Cave stated that by having an accurate knowledge of the Apples and Pears in cool store in Victoria, and the keeping conditions of such, the districts could be advised as to the best time for the sending of fruit to either local or interstate markets.

Mr. D. Harvey demonstrating the pull of a plow at Harcourt Field Day.

Districts or growers could retain their present brands, but fruit which met the required standard could have the privilege of being labelled in addition with the Victoria Mark Brand, this being the hall mark of quality, and fruit thus labelled should sell at a premium.

Mr. Jarman was appointed a member of the local marketing organisation committee, and it was decided to set about the re-organisation of the Red Hill Fruitgrowers' Association which has not been meeting for some time.

The return of Mr. Geoffrey W. Brown, President of the Victorian Fruit Marketing Association, and delegate from the Australian Apple and Pear Export Council to the recent Empire Fruit Conference, is eagerly awaited.

Pest Control at Mildura.—A visitor to the Mildura area recently noted the difference in pest control methods at Red Cliffs, Irymple, Mildura and Curlwaa. Some relied on fumigation, others used spraying methods.

Field Day at J. J. Ahern's Orchard, Pakenham, Vic. Mr. T. Fuller (with secateurs) and his pruned Granny Smith Apple Tree. (Mr. Ahern on right in foreground).

BROADCASTING.

The following radio talks will be given under the auspices of the Victorian Dept. of Agriculture.

September 4—"Tomato Diseases and their Control," S. Fish, M.Agr.Sc., Plant Research Laboratory.

September 11—"Bottling and Drying Vegetables," Miss Knight, Fruit Preserving Expert.

These talks will be given over 3AR from 6.15 to 6.30 p.m.

BERRY GROWERS AND SUGAR.

(To the Editor, "Fruit World.")

Dear Sir,—In your August issue, Mr. Henderson, Secretary of the Silvian Fruitgrowers' Association, contends that the Fruit Industry Sugar Concession Committee is responsible for the troubles of Victorian berry growers. Your space is too valuable to warrant anything like a full reply to Mr. Henderson's misconceptions of the position, but the following aspects might be mentioned.

Although Victorian Strawberry prices may have averaged 6¾d. per lb. wholesale and 9d. retail during 1925-31, as against 3d. for both wholesale and retail in 1934, it by no means follows as asserted by Mr. Henderson, that my Committee's fixation of minimum prices is the cause.

Berry fruit prices have declined for two main reasons. Firstly, the depression has greatly reduced the purchasing power of consumers who, very naturally in such circumstances, prefer to buy Apricot and Plum jams which are from 4d. to 6d. per tin cheaper than berry jams. The price of sugar has nothing to do with the relative prices of different jams.

Secondly, the position is aggravated by the present acute over-production of berry fruits in Australia. These two

factors would obviously reduce the market value of any commodity.

Instead of the Fruit Industry Sugar Concession Committee having caused low prices for Victorian berries, it can reasonably claim that prices would be lower still under existing circumstances but for its operations. The Committee is financing the export of over 1,200 tons of berry pulps each year, despite the significant fact that they contain no sugar at all. Practically no pulp could be exported without the substantial subsidies paid by the Committee.

If berry pulps could not be exported, some 1,200 tons of surplus berry fruits produced in Tasmania at lower costs than seem possible in Victoria would seriously depress even the present local market values.

Mr. Henderson states that, so far as Victoria is concerned, a satisfactory method of utilising the sugar concession can be submitted. I can only repeat my previous public statements that the Committee will gladly give sympathetic consideration to any proposals made on behalf of Victorian berry growers that are both legally and commercially practicable. Unfortunately no such proposals have so far been submitted to the Committee.

Yours faithfully,
A. R. TOWNSEND, Chairman.

WHAT DO YOU THINK?

"I'll have a pound of Bananas, 2 lbs. of Oranges, 1 lb. of Passionfruit." If a housewife made this request in a Victorian green grocers' shop, the fruit supplying gentleman would raise his eyebrows.

But why should not these fruits be sold by the pound when Apples, Pears and Peaches are sold by the pound?

Of course, the most business-like way is to sell all large fruit by the count.

Local Fruit Marketing.

Organisation of Growers, Wholesalers and Retailers Successfully Launched.

Standardisation and Advertising. Using Lower Grade Fruit in By-products.

AS reported in earlier editions of the "Fruit World," negotiations have been taking place for several months past to create an organisation to improve local and interstate fruit marketing.

The organisation was definitely launched with considerable enthusiasm at a representative meeting at the C.T.A., Melbourne, on August 24. For simplicity of administration it was decided to make the organisation into a limited liability company with a capital of £60,000 —20,000 shares at £3 per share, 10/- on application, 10/- on allotment, and the balance at not more than £1 per share per annum. It is thought that not more than the original £1 will be required.

The objects are to improve the growing, packing, handling and distribution of fresh fruits, and to inaugurate an advertising campaign to increase the consumption of fruit; highest grade fruit to be sold under a special label to be known as the "Victoria Mark." Special attention will be paid to the utilisation of poorer fruit in by-products. It is certain that "Victoria Mark" fruit will be sold at a premium—in Melbourne, in country districts and in the interstate and export trade.

The principal form of revenue will be from levies which will be contributed by growers and the trade. The funds thus raised will be used for advertising to increase fruit consumption.

This follows along the lines of the successful "National Mark" in England—which applies to fruits, vegetables and all classes of produce—"The Dominion Mark" in New Zealand and the successful Apples Sales Board in Western Australia. The Fruit Industry Association, an organisation of growers and merchants has also been launched in New South Wales with similar objects.

* * *

There are many points of administration and details to be attended to, and the difficulties are not minimised. In particular there will need to be inspection to ensure that all fruit sold under the Victoria Mark shall be of the required standard.

The outstanding facts are:—

1. That fruit sold locally is not sufficiently standardised.
2. Other countries have successfully adopted standards.
3. Victorian growers are not lacking in intelligence and goodwill to create and maintain adequate standards.
4. Standardised fruit will sell at a premium.
5. Lower grade fruit can be utilised in by-products.

At a representative meeting of fruitgrowers, wholesalers and retailers held at the C.T.A., Melbourne on August 24, Mr. F. Cave presiding, the new organisation was successfully launched. The name is to be "The Victoria Mark Fruit Co. Ltd."

Additional points to those above dealt with were:—Exporters can join as wholesalers. Maximum levies were fixed, growers 3d. per case, wholesalers 1½d. per case (it is thought that levies of half these sums will be sufficient). Growers to take up one share for each 500 cases under the "Victoria Mark."

Packing houses can join as growers. Number of directors seven, four growers, two wholesalers, one retailer. Advisory committee to be formed of growers as follows:—Harcourt and district, (3), Mornington Peninsula (3), Metropolitan (3), North and North-East (3), North-West and West (2), Gippsland (3), Wholesalers (2), Retailers (2).

The company to go to registration on two hundred shares being applied for. Provisional directors:—Messrs. W. A. Thiele, W. P. Mair, W. B. D. Jarman, G. C. Karnaghan, F. Cave, R. Vail, E. W. Thompson, R. E. Boardman, Secretary pro tem.

Meeting of shareholders to be called when sufficient shares applied to appoint directors. Two growers and one wholesaler to retire each year (eligible for re-election) fruiterers' director to be elected annually.

* * *

Special attention was given to the subject of by-products. Bottles of "Ap-

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plo" (pure fruit Apple drink, non-alcoholic) were sampled, and appreciated.

Messrs. Spry's Appura fruit drinks were also sampled, these included pure fruit drinks made from Apples, Passionfruit, Lemon, Orange, and Pineapple. Quality excellent.

A cordial vote of thanks was accorded with acclamation to the Chairman. In responding, Mr. Cave said he was convinced that the movement just launched was of the utmost importance to the industry. It was the first serious attempt which had been made to organise and develop the Australian market. He was convinced of it being a big success.

APPLE WIPING MACHINE.

A VALUABLE DEVICE for wiping spray residue from Apples has been developed by Mr. E. G. Phillips, who is in charge of the fruit-packing shed at Croydon, Victoria.

The machine is circular and can be driven by hand or motor power. Fingers or pockets of soft rubber (for holding the Apples) are fixed to a revolving table. The wiping process takes place as the Apples are conveyed (spinning under gentle pressure by means of the revolving table) through completely enclosed tunnels of wool.

The size of the tunnel can be regulated to any size of Apple. On their way through the tunnel the Apples are turned from side to side, and on coming out are found to be perfectly clean. There is no bruising of any kind. Top pressure is provided by means of tension rods attached to springs which adjust themselves to various sizes of fruit.

Apples can be fed to the machine from a hopper. The process of wiping is a quick one. The machine can turn out fifteen to twenty cleansed cases of Apples per hour.

The machine, which has been patented, is simplicity itself, and should last a lifetime. The price to growers is estimated to be about £12. Mr. Phillips finds that it is best to have a lamb's skin where the wool has only been shorn, say, two months.

* * *

In the handling of large quantities of Apples, which has been Mr. Phillips' experience for many years, he has noticed since the hydrochloric acid washing has been introduced the Apples have not kept as well as formerly. In particular it is thought that the cleansing of the Apples after the hydrochloric acid bath has been insufficient. There are other disadvantages connected with the use of hydrochloric acid, hence the developing of a machine which will do away with the washing process.

The machine has been inspected by officers of the Dept. of Agriculture and others, and favorably commented upon.

Tasmanian Fruit Export

Improvements Necessary in Picking, Grading and Packing: Uniform Case Imperative: Green Hardwood Cases Cause Bruising: Necessity for Standardised Pack.

Urgent Need for Experiment Orchard.

Views of Mr. P. H. Thomas, Chief Horticulturist.

AT the annual conferences of Tasmanian Fruitgrowers in August, Mr. B. J. Pearsall, M.H.A., presiding, methods for improving the growing, packing and handling of fruit were dealt with by Mr. P. H. Thomas, Chief Horticulturist, who said that patchwork efforts would fail: the problems had to be tackled on a national and economic basis. A properly equipped experimental orchard was needed. Varieties should be reduced to about 15.

Continuing, Mr. Thomas said that picking methods were haphazard, resulting in immature and shrivelled fruit—frequently affected with bitter pit, much of which developed en route. Susceptible varieties, particularly C.O.P. and Ribston, should remain under observation for 10 to 12 days after picking and before packing. Certain varieties were more liable than others to become bruised; picking, sizing and packing should be slowed down. Packing was frequently too tight, and protective material was lacking. **Fruit packed in green hardwood cases was likely to be severely bruised during the shrinkage of the timber.**

Petty differences should be sunk in view of the national problems confronting the industry. A uniform case was imperative. At present Apples and Pears could be shipped in six different sized containers, plus trays. Counts should be used instead of sizes. A national brand would be of great advertising value. The packing shed movement should be largely developed.

In conclusion, Mr. Thomas said that improvement would come slowly, but a commencement was urgently necessary.

Until the bulk of the fruit could be handled on commercial lines through properly equipped packing sheds, grading would vary and would be unreliable and the full extent of the desired improvement would not be attainable, and Tasmania would always be handicapped in competing with countries producing and putting up a standardised pack.

TASMANIA.

Lenah Valley.

The winter here is dry and hard, with many heavy frosts. Ploughing has been delayed on account of the dry weather, but is now in full swing following some rain. Pruning is well advanced. Indications are favorable for another good crop, as buds are maturing well. Pear buds are particularly promising.

Many orchardists in the Huon district have suffered through a very heavy frost playing havoc with the pipes of their stationary spraying outfits. Many pipes will have to be replaced before spraying commences.

The continued unprofitable prices received overseas for fruit is causing growers much concern. A movement is on foot to abolish the State Fruit Advisory Board and to elect another, with the Minister for Agriculture as its head. It will be a form of control by a Government department. Artificial price raising is the chief objective. I cannot say that the suggested methods promise much success. Unless we secure reduction in freight and cut production costs to the bone the industry will not be able to carry on.—Merton Calvert.

A Profitable Sideline.

Good money is to be earned in the country by the snaring of water rats. Farmers and others living near rivers, swamps or large dams will have no trouble in seeing traces of these little animals, the skins of which are much sought after by manufacturing furriers to-day. They bring high prices right through the year.

Water rats frequent old rabbit burrows. Many ways have been devised in trapping. The jam tin snare is one of the best; make a cross-cut at the top of a jam tin and press the four corners in; place a piece of meat inside the tin; the tin should then be wired and pinned to the ground. When the rat pokes its head in to get at the meat the points of the four corners which have been pressed in prevent it from withdrawing its head. The method of skinning and drying should be the same as a rabbit, that is it should be gloved. Never cut up the belly, as this method is not correct, and lowers the value of your skins. Snares may be set in the afternoon, and visited to take the catch in the early hours of the morning.

Care should be taken to see that the skins are thoroughly dried before packing for transit or storing, otherwise they may arrive in a damaged condition.

Messrs. SLATTER & CO., of Nicholas Building, Swanston Street, Melbourne, will purchase these skins in any quantity, and pay top market price. On receipt of a parcel, they grade the pelts, and forward you a cheque by return mail. This firm are also buyers of other skins, and will always be pleased to receive consignments of same from the country.

Answers to Correspondents

Prunes and Marketing. — "J.B.N.", Junee, N.S.W., writes seeking information as to regulations, etc., in regard to dried tree fruits, particularly Prunes.

Answer (by G. A. Try, Secretary N.S.W. Dried Fruits Board):—

Dried vine fruits have been subject to the provisions of the Dried Fruits Acts in Victoria, and South Australia since 1924, and in N.S.W. since 1928, and in Western Australia since 1927.

In 1931 the over-production of Prunes in Australia became a serious matter. In that year the Prunes were placed for sale on an over-supplied and disorganised market in Australia. Owing to competition and price cutting, the price fell as low as 1½d. per lb. to the consumer. This, of course, was very much below cost of production and was calamitous to the growers. The consequence was that growers of dried Prunes, dried Peaches, dried Apricots, dried Nectarines and dried Pears, requested the Governments of the various producing States for similar legislation to that obtaining for dried vine fruits. This request has been granted by each producing State, and similarly to dried vine fruits, the State legislation is supplemented by Commonwealth legislation.

The whole object of the legislation is to take off the Australian market the surplus production, thus leaving only sufficient on that market for its requirements. Under these conditions the necessity for price cutting is eliminated —prices are fixed by the Australian Dried Fruits Association, which is a voluntary organisation, with a view to growers obtaining reasonable cost of production.

The State Acts control intra-State trade, and the Commonwealth Act controls inter-State trade. Quotas are determined under each of these Acts. At present the quota under the State Acts for Prunes is 66-2/3rds per cent. This means that a grower of Prunes is not allowed to sell in the State of origin more than 66-2/3rds per cent. of his production. He has two alternatives in relation to the residue—33-1/3rd per cent., viz.:—(a) To export it; (b) To trade it inter-State.

The Commonwealth Act controls interstate dealings, and under this Act before a person can engage in interstate trade he has to obtain a license. The licenses are issued subject to conditions, inter alia, that an export quota be complied with. At present this export quota is 33-1/3rd per cent. Therefore, if a person transfers his residue of Prunes interstate he is liable to export 33-1/3rd per cent. of his production. Under these circumstances it will be seen that in any case 33-1/3rd per cent. has to be exported.

The foregoing is the method by which the surplus is taken off the Australian market, and each grower is given his fair share of the more attractive Australian market, and is compelled to take his fair share of the less remunerative export markets. The quotas may be varied from time to time.

For administering the Dried Fruits Acts, Dried Fruits Boards have been constituted and the functions of these Boards include the registration of packing houses, dealers and growers. Registered packing houses, dealers and growers are liable to render returns to the Dried Fruits Board, and thus the production and quotas are checked. The Boards also see that the fruit is properly and hygienically packed, and graded, and the boxes containing same are properly branded.

Other than the foregoing, which is considered the minimum of necessary interference, the Dried Fruits Boards do not interfere in the trade in any way. The marketing and distribution of the products is left entirely to private enterprise, and so is price fixing.

Towards the cost of defraying the expenses necessary in the administration of the Dried Fruits Acts and the carrying out of the duties and functions of the Boards thereunder, a levy of 1/32d. per lb. is imposed upon the production of dried fruits.

All dried fruits must be passed through registered packing sheds which are made the central places at which the checks required by the Board are made. The onus of compliance with the quotas and payment of levy on behalf of the growers is placed on the packing sheds.

Aphis on Pear Roots: "P.A.," Narre Warren North, Vic., writes — Is there any remedy for Woolly Aphis or similar Aphis on Pear roots? The disease affects the trees.

Answer (by Mr. S. Fish, Vic. Dept. of Agriculture).—The Pear root Aphid (Briosoma sp.) is very difficult to control, since the whole of its life cycle is usually passed through in the soil at depths ranging up to three feet or more. Infestation by the Aphid is usually heaviest on the small rootlets near the tree trunk, while less often it attacks roots up to ¾ inch in diameter, and sometimes it settles on larger roots or on the main trunk. It often occurs also on the underground portion of suckers.

The following measures are suggested for the control of the pest:—

(1) The grubbing out of heavily infested and stunted trees and replanting with young trees on less susceptible stocks. From observations, it appears that Keiffer and Japaren stocks are less

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susceptible to attack than French wild stock. It is preferable not to replant for six months after the infested trees have been grubbed, so that the Aphids left in the soil will have died out. Before planting, all young trees should be wholly immersed for one hour in nicotine sulphate solution, used at the strength of ½ pint in 40 gallons of water in which ¼ pound of soft soap has been dissolved.

(2) Some success has been achieved by using Paradichlorbenzene (P.D.B.) as a soil fumigant. This material should be applied during the summer months. The method of application is as follows:—The soil surface round the tree trunk is smoothed, and a series of 8 or 9 furrows about 4 inches deep are made radiating from the trunk in all directions for a distance of 2-3 feet. The P.D.B. is sprinkled in the furrows and then covered in with soil. The dosage is 1½ to 2 ozs. of material per tree 10 years or more old, with small doses for younger trees. It is advisable to apply the material when the soil is fairly dry. Doses exceeding 3 oz. should not be given, as serious injury to the tree is likely to occur.

Dried Fruits—News and Notes

EXPORT OF DRIED FRUITS.

Increase in 1933-34 by £420,683.

IN a statement issued by the Minister for Commerce (Mr. Stewart) early in August, the exports of dried fruits from Australia during 1933-4 were shown to have increased by £420,683 to £2,650,844. The total quantity exported amounted this year to 145,490,500 lbs., compared with 106,248,666 lbs. in the previous year.

Export quantities and values for the two seasons included: Currants, 35,078,-320 lbs. (£633,003), compared with 24,935,385 lbs. (£450,369); Sultanas, 92,139,819 lbs. (£1,657,994), compared with 74,066,853 (£1,649,048); Lexias, 12,138,043 lbs. (£193,745), compared with 5,121,377 (£75,076); other Raisins, 611,-109 lbs. (£15,425), compared with 111,789 (£4,590).

VITICULTURE IN VICTORIA

At Rutherglen good winter rains greatly benefited vines.

Elsewhere soaking rain is wanted. The Dept. of Agriculture states that in most cases the subsoil is not moist enough. The August watering that is nearly always desirable, to permit withholding irrigation in October and early November, is more necessary than usual this year.

Dry conditions enhance the menace of spring frost. Steps to meet it, either by direct heating or smudging, would be very opportune, and collective action should be organised in localities that are liable. Results can thus be obtained that would be hopeless from individual effort.

Black spot is also to be expected, the summer and autumn rains having spread the disease extensively. Though little harm to last season's Grape crop resulted, there are enough overwintering forms for a grave outbreak on undefended vines, should spring weather favor the fungus. Swabbing with acid iron sulphate will need attention.

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Dried Tree Fruits.

For dried tree fruits, new grades are proposed by the State Dried Fruits Boards. These are likely to be adopted for the new season, which begins in December.

The proposals include that Pears and Peaches shall be graded as fancy, choice, standard, plain, and slab, according to quality. Fancy, choice, and standard are subdivided according to the size of the fruit, as follows:—4-crown, more than 2 in. in diameter; 3-crown, more than 1⅞ in.; 2-crown, more than 1½ in.; 1-crown, 1⅛ in., or less. Plain or slab fruit may be of any size. In the case of peeled Peaches the sizes all-round are ¼ in. less.

Grades for Prunes are choice, standard, and plain. Prunes in excess of 120 to the pound are classed as small.

Apricots and nectarines are similarly graded in quality, but the sizes of fruit are:—4-crown, more than 1⅝ in. in diameter; 3-crown, more than 1⅜ in.; 2-crown, more than ⅞ in.; 1-crown, ⅞ inch, and less.

AUSTRALIAN DRIED FRUITS SALES IN GREAT BRITAIN.

The Commonwealth Dried Fruits Export Control Board advises that 555 tons of Australian dried fruits were reported to the London agency of the board as having been sold in Great Britain during the week ending August 23.

Four hundred and four tons of Currants realised £34/15/- per ton, 98 tons of Sultanas averaged £42/6/8 per ton, whilst 40 tons of Lexias were disposed of at an average of £36/5/- per ton.

Merbein.—The election of office bearers of the Merbein Dried Fruits Growers' Union for the next twelve months resulted as follows.—President, Mr. A. Rawlings; Vice-President, Mr. G. L. Hardie; Secretary, Mr. G. J. Hyndman; Treasurer, Mr. E. J. Casey; Delegates to District Council and State Conference, Messrs. W. H. Tickell, G. L. Hardie, R. M. Voullaire, G. J. Hyndman, E. J. Casey, and A. Rawlings; nominees to Federal Council of the A.D.F.A., Messrs. G. J. Hyndman and A. Rawlings.

The retiring President, Mr. G. J. Hyndman and the retiring Secretary, Mr. W. H. Tickell, who have both held their positions since the founding of the Union, declined re-nomination.

Personal.

Mr. C. McCann, South Australian Trade Commissioner, received a cordial welcome, and was freely entertained during his visits to the Murray Valley and other centres in South Australia.

Mr. A. S. M. Harrison, of the International Fruit and Mercantile Company, Melbourne, shippers' vice-president of the Victorian Fruit Marketing Association, is away on a visit to Brisbane. Mr. Harrison is expected back early in October, and all will wish him renewed health.

Mr. H. Barnes, Director of Fruit Culture, Brisbane, is now on a visit to the southern States. Mr. Barnes was cordially greeted at the Harcourt Field Day: he expressed surprise and pleasure at the large attendance and the interest shown.

Hearty congratulations to Mr. W. H. Everard, M.L.A., on his being elected Speaker in the Victorian Legislative Assembly.

All interested in the fruit industry will be pleased at this honor conferred on Mr. Everard. His services to the fruit industry are too numerous to mention. It will be remembered that in Parliament, Mr. Everard used to be referred to as the "member for the fruit industry."

Mr. E. Ross, of Messrs. H. Jones & Co. Ltd., Hobart, Tasmania, has arrived in England, and is attending to matters relating to the export of Apples from Tasmania to the United Kingdom.

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Mr. Geoffrey W. Brown, who attended the recent Empire Producers' Conference, London, as the representative of the Australian Apple and Pear Export Council, left England per R.M.S. "Ormonde," which vessel is due to arrive at Fremantle on September 18, and Melbourne on September 24.

Fruit growers' representatives who attended the recent quarterly meeting of the Chamber of Agriculture, were Messrs. W. A. Webb, Doncaster Fruitgrowers' Association; A. Lechte, Mt. Waverley Fruitgrowers' Association; Frank Petty, Cool Stores' Association; also Mr. G. S. Ryan, representing the Market Gardeners' and Fruitgrowers' Society.

Mr. W. McGowan, previously of Scottsdale, Tasmania, has disposed of his orchard interests there to Mr. E. Vickers, and has now definitely settled in Victoria. Mr. McGowan is growing Apples and Pears for local, interstate and overseas markets, at Lilydale, Vic. He has also been very successful in cider making.

When in Tasmania, Mr. McGowan was a member of the State Fruit Advisory Board: he is a capable speaker and has a pleasing personality. He will be an asset in Victorian fruit organisations.

It is pleasing to note the popularity of Mr. J. Brady, manager of the Leeton Cannery. Apart from his efficiency in cannery management, appreciation is expressed to Mr. Brady for his work in assisting to introduce the right variety of rice for commercial production on the Murrumbidgee Irrigation Areas.

NEWS IN BRIEF.

Indications so far favor a big crop of Apples in Tasmania in 1935.

Continued low export prices have caused much concern to Tasmanian orchardists. Reductions in freight are urgently desired.

Heavy frosts played havoc with pipes of stationary spray plants in some districts of Tasmania recently.

From the appearance of the buds a big crop of Apples is possible in Victoria in the coming season.

It is reported that 66 per cent. of the Apple and Pear trees in the Bendigo district are being chemically banded this season to assist in controlling the codlin moth.

The necessity for adequate drainage is being emphasised in the Murray Irrigation Settlements. In the Renmark district the drainage scheme is in progress in the Block E area.

The better types of Navel Orange bring 2/- to 4/- a case higher than the "off" types. Citrus trees can be reworked in September and October, and again in the autumn.

A parasite for the Codlin Moth has been discovered in a Victorian orchard. Full investigations are being made.

The values of various green cover crops are discussed in this issue by our Murray River Correspondent.

Budwood for spring budding to rework unprofitable Citrus trees is obtainable from the Victorian Department of Agriculture if early application be made.

Any necessary pruning of Navel Orange trees in Victoria should be done in early September.

The need for an adequate experimental orchard or plant research station was emphasised at the recent conferences of Tasmanian fruitgrowers.

U.S.A. APPLE CROP.

Lowest for Many Years.

Reports from U.S.A. indicate a 45 per cent. crop of Apples, the lowest on record excepting 1907 and 1921. Crop generally good except in Ohio, Virginia and Pacific Coast States, where codlin moth bad: worm troubles in Washington and Oregon.

The July 1 estimate was for a total production of 112,000,000 bushels of which 51,000,000 are in the boxed Apple States. Total Pear production estimated at 22,400,000 bushels, of which 16,500,000 are in boxed Pear States.

Mr. R. J. Benton, special fruit instructor, N.S.W. Department of Agriculture, was impressed by the efforts of the Queensland Citrus growers to advertise their fruit by means of the Brisbane Annual Show, and said that their work should be an example to growers in N.S.W.

Western and South Australian fruitgrowers have found difficulty in securing disbursement of the Commonwealth Relief Grant for 1934, owing to the interpretation as to what is a "necessitous grower." The amount allotted to Western Australia was £10,918.

The shipment of early immature Apples is discountenanced by Mr. G. Quinn, South Australian Horticultural Instructor. The South Australian Fruit Marketing Association is bringing this matter before the Australian Apple and Pear Export Council meeting in October.

AUSTRALIA is justifiably proud of the quality of the fruit it produces, for it is equal to that grown in any part of the world. Climatic conditions in Australia are, generally speaking, favourable to the growth of the finest fruits but, unfortunately, the same conditions also favour the spread of insect pests, particularly that terrible enemy of the orchardist, the Codlin Moth. It is only the best fruit that shows the grower a profitable return, and only the best Arsenate of Lead will give the maximum protection against the ravages of the Codlin Moth in the orchard.

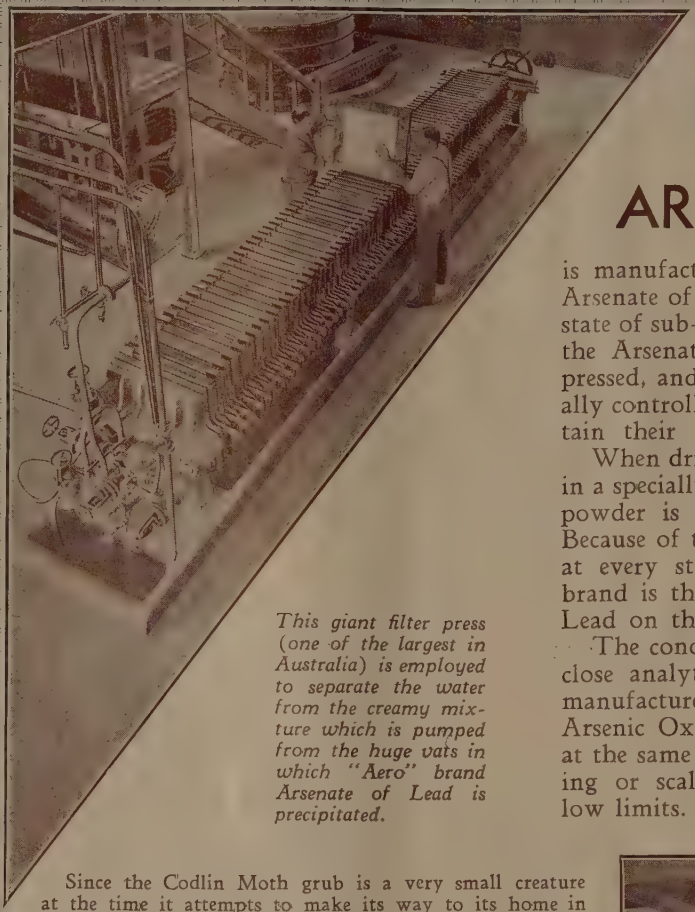
The profits of many an orchardist have been sadly reduced through using inferior quality sprays that do not give the maximum protection to his crop. The wise grower uses "Aero" brand Arsenate of Lead, and is therefore assured of protection for his orchard. The result is sound, codlin-free fruit that commands the highest returns in the market.

Bickford's "Aero" brand Arsenate of Lead has, for many years, proved the orchardists' surest safeguard against damage from Codlin Moth. Leading orchardists all over the Commonwealth are now using this superlative quality Arsenate of Lead with wonderful success, and are unanimous in their verdict that it is the finest Arsenate of Lead on the market.

Awarded
GOLD MEDAL
All-Australian
Exhibition, 1930.

BICKFORD'S
"Aero" BRAND
ARSENATE OF LEAD

By every Test Bickfords "AERO" Brand is Best



This giant filter press (one of the largest in Australia) is employed to separate the water from the creamy mixture which is pumped from the huge vats in which "Aero" brand Arsenate of Lead is precipitated.

BICKFORD'S

"AERO" BRAND

ARSENATE OF LEAD

is manufactured by a special process in which the Arsenate of Lead is precipitated in the finest possible state of sub-division. The creamy mixture containing the Arsenate of Lead in suspension is then filter-pressed, and the resulting cakes are dried under specially controlled conditions whereby the particles maintain their excessively fine nature without caking.

When dried, the Arsenate of Lead is finally ground in a specially designed mill where the impalpably fine powder is floated out in a gentle current of air. Because of this special process, and the care exercised at every stage of manufacture, Bickford's "Aero" brand is the purest, finest, and lightest Arsenate of Lead on the market.

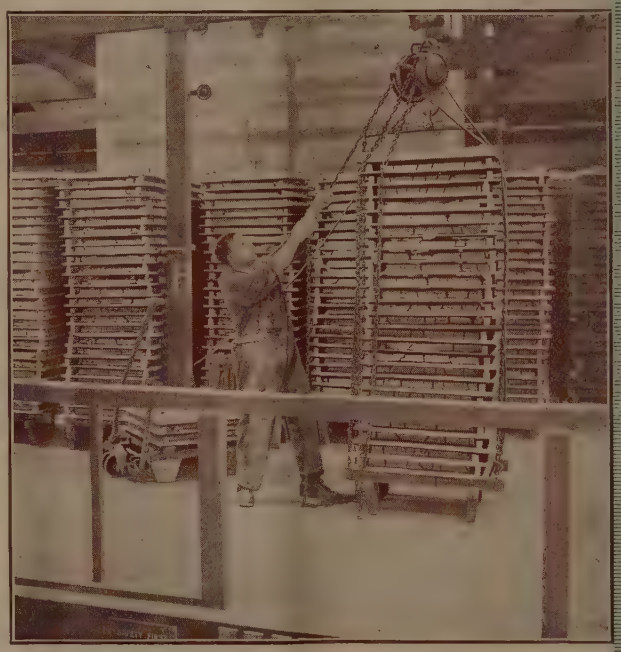
The conditions of manufacture (coupled with the close analytical control exercised at every stage of manufacture) ensure a uniformly high percentage of Arsenic Oxide (the poisonous constituent), while, at the same time, the free soluble Arsenic (the burning or scalding element) is reduced to extremely low limits.

Since the Codlin Moth grub is a very small creature at the time it attempts to make its way to its home in the heart of the apple or pear, it is obvious that the Arsenate of Lead film on the fruit should be composed of very minute particles, or it will be unable to include them in its diet of fruit, and will therefore enter the fruit without being poisoned.

For this reason, the excessively fine nature of "Aero" brand Arsenate of Lead ensures the orchardist the maximum protection. Concurrently, the lightness of the product gives greater coverage per pound of Arsenate used, and economy and efficiency are thus happily combined.

It will be evident, on reflection, that for the reasons stated, adequate control of all leaf-eating insects can be effected with less "Aero" brand Arsenate of Lead than when using other heavier makes. Arsenical contamination of fruit is being more and more carefully watched by the authorities, and this provides still another reason for the employment of the finest grade Arsenate of Lead, the grade that goes the furthest; gives the maximum protection with the least arsenical residue—in other words:

BICKORD'S "AERO" BRAND ARSENATE OF LEAD.



The illustration shows the cakes of "Aero" brand Arsenate of Lead being conveyed to the drying rooms, where they are dried under carefully controlled conditions.

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BUZACOTTS (QUEENSLAND) LTD.
443 Adelaide Street, Brisbane.

The Romantic Development of the Chemistry of Nitrogen.

(By R. A. Boyle, M.Sc., A.A.C.I.)

Of all the so-called elements, of which there are now reckoned to be about 100, and from which either singly or in chemical combination with each other, the whole earth and all that it contains is built up, nitrogen is that one which is concerned possibly more than other with the "Will to Live." Not only is this element the very nucleus of existence, but it is also one of the direct agents for its destruction, being a controlling factor of life as well as of the most dangerous explosives. Possibly no other element has given rise to more difficult chemical problems, more spectacular and romantic developments, and yet the gas "nitrogen" itself is one of the most inert, harmless and plentiful of all substances. Actually, it has been on account of this inertness and stability under ordinary atmospheric conditions that it has presented such problems to the chemist. Nitrogen, under ordinary conditions, makes up about four-fifths of the atmosphere, and therefore, quite obviously, is odorless, non-inflammable and inactive. It is, of course, inhaled by all breathing fauna, and does neither good nor harm in that operation. Even the flora (plants, etc.), which do inhale in much the same manner as the fauna, absorb no nitrogen in that way. And yet it is the very foundation of the lives of both. It exists in the free and uncombined state or occurs naturally only in the atmosphere. How then, do living things procure their necessary supplies?

Existing side by side with nitrogen in the atmosphere is another element, in the form of a gas, namely oxygen. Under ordinary atmospheric conditions, the two elements merely float around each other as it were, and would, in that state, appear to have no affinity for each other whatever. It was learnt, however, about the year 1770, that nitrogen and oxygen did exist in chemical combination with each other, and a third ingredient — potassium, in a substance called "Nitre"—hence the name "nitrogen," meaning "Nitre Producer." When thus combined, a substance existing as a solid and soluble to a considerable degree in water resulted.

By suitable treatment of nitre a pungent-smelling, brownish-colored and poisonous gas was obtained, which was found to be a combination of nitrogen and oxygen. Since, when in such close proximity in the atmosphere nitrogen and oxygen have so little affinity for each other, one might expect that when they are forced to combine, by whatever means, they do so only with extreme difficulty and reluctance. And that is the case, and for this very reason the combination of the two generally constitutes a violent explosive—one separating from the other with various degrees of willingness, and undergoing such expansion in the operation that an explosion is created. The substance referred to above as nitre was discovered to have the property of exploding on detonation, and about the year 1300 was first employed in the manufacture of gunpowder. From that date, supplies were bought for this deadly purpose, and deposits of what became known as potash saltpetre were discovered in India and China. These not very vast deposits were formed naturally in semi-arid regions, where nitrogenous refuse (decaying vegetation, etc.) rotted on soil containing potash.

During the Napoleonic wars, France was blockaded from natural supplies of potash saltpetre, and Napoleon offered a reward to anyone who could produce it. Success was achieved in the following manner: Soil was heaped up with animal refuse, wood, ashes, and lime, and was moistened with urine, and then allowed to stand, when a white crustation of potash saltpetre (nitrate of potash) was formed. This formation, in very small quantities, may be observed very often in stables.

In 1810, attention was drawn to a huge accumulation of sodium and potassium nitrate existing in Chile, and, from that date onwards, supplies were drawn from this source. No other such deposit of anything approaching the same magnitude has been yet discovered, and its origin still remains a scientific mystery.

There is another most important element, known as hydrogen, which, in chemical combination with oxygen, forms water. Hydrogen, in contradistinction to nitrogen, practically always exists in nature in combination with other elements, chiefly oxygen and carbon, and only under exceptional circumstances, by itself. It is a gas also when isolated, but is extremely inflammable, and therefore highly dangerous as such. Being very much lighter than air, it is sometimes used to inflate balloons. Soon after discovering the existence of nitrogen in combination with oxygen it was found also to exist in combination with hydrogen in the form of a very pungent-smelling gas called ammonia, which was extracted by chemical means from coal, horns, and other vegetable or animal matter. Like the combination of nitrogen and oxygen, this gas, ammonia, is readily soluble in water, but nitrogen and hydrogen exist much more pleasantly together, and in fact are only separated with considerable difficulty.

Simultaneously with the discovery of ammonia in coal, the manufacture of illuminating gas was being developed, and the ammonia, being so evil-smelling and non-inflammable, constituted an undesirable impurity. It was eventually separated by passing the mixture of gases arising from the coal through sulphuric acid, a chemical combination of sulphur, oxygen and hydrogen, when the ammonia combined with the acid to form what is known as "ammonium sulphate" or "sulphate of ammonia." This latter substance, you will take particular note, is a pure chemical compound of nitrogen, hydrogen, sulphur and oxygen, and not a physical mixture, as would be, for instance, salt and sugar, or gypsum and sand.

Chemists also learnt that all matter, of plant or animal origin, contained nitrogen in chemical combination, usually with hydrogen, oxygen and carbon. These compounds are known as proteins. To this fact was then attributed some of the benefits to plant growth that had for a long time been known to result from the incorporation with the soil of organic matter. It was soon learnt also that not only organic matter, but such chemical preparations or extractions as sulphate of ammonia and nitrate of soda, termed inorganic, gave considerable stimulus to plant growth. All these substances, both organic and inorganic, thus acquired the designation "fertiliser" or "manure," and became of value accordingly. So that about the year 1830 commenced the use of artificial or chemical inorganic compounds to supplement matter of purely animal origin, applied to the soil to provide more nitrogen for plants.

Although chemists, up to this stage, divided nitrogenous compounds into the two classes, "organic" and "inorganic," and this distinction is still made, the nitrogen which each group contains is, of course, identically the same element, and in all cases was derived originally from the air by living beings. The nitrogen in ammonia, as obtained from the destructive distillation of coal, was initially withdrawn from the air by the trees, etc., which eventually turned into coal. Even the nitrogen in the Chilean nitrate of soda deposits must have had an organic origin. (To be continued)

NEW APPLE.

A new Apple called "Richared" Delicious, is described from America as identical with the common Delicious in shape, size, texture, flavor and ripening period, but it colors solid red (no stripes) weeks earlier than the common (striped) Delicious. This new "Richared" Delicious Apple can be picked "hard-ripe," and has been fully tested. It is a good keeper.

Control of Fungous Diseases

Recent research work, coupled with several years practical field work in New Zealand and other countries, having definitely proved that a special form of

Colloidal Sulphur

gives outstandingly superior control of

Black Spot, Powdery Mildew and Other Diseases

We have completed arrangements to market that particular form of Sulphur throughout Australia.

We invite enquiries from growers and others interested, when full information will be given.

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WILLIAM COOPER & NEPHEWS (Aust.) LTD.

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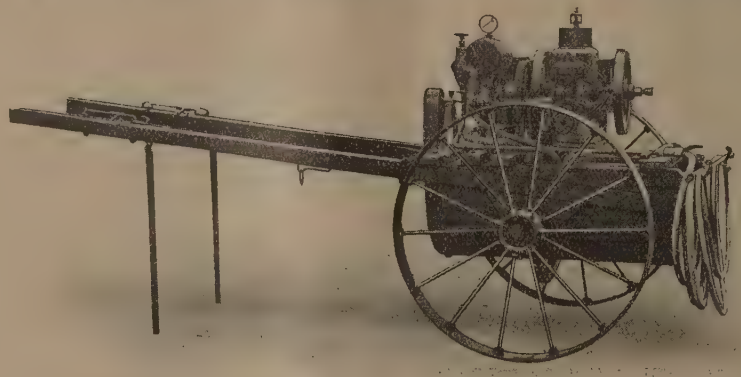
Only when it is Done Properly



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BRANCHES IN ALL STATES

Descriptive Catalogue Posted Free to any Address

Australian Fruit Abroad

PRELIMINARY REPORT BY MR. G. W. BROWN.

(Continued from August "Fruit World.")

MANY IMPORTANT FACTORS in relation to the marketing of Australian fruit abroad are included in the preliminary report by Mr. G. W. Brown, as published in the August issue of the "Fruit World."

Continuing on the subject of the British markets, Mr. Brown writes:—

With regard to (a) there are certain difficulties which must be considered.

(i.) There is obviously a great deal of cheap money available for speculation to be had at present, and this is being used by many interests for speculation in all classes of imports. The result of this is visible not only in the Australian trade, where a number of people not previously connected with the Apple trade are now handling Apples as well as other imports. This means that buyers are being approached from many new directions with a consequent lowering of prices.

(ii.) A similar result has occurred as a result of exchange difficulties — that is, the use of goods such as Apples or Pears as a medium for transferring money has resulted in fruit being handled by firms and individuals not normally connected with the trade, e.g., I find fruit firms selling wool, wool firms with butter or fruit, etc.; and, after these products will not go through the normal trade channels, but are spread to buyers in such a way as to restrict competition in selling.

(iii.) The limitation of receivers is rather a tempting solution of many of these difficulties, but it is essential to realise that to limit the number of receivers of Australian fruit will not limit the amount of fruit offered for sale during our season in any way. The experience of certain groups from Canada has been that where the number of receivers was limited those receivers who had previously received Canadian fruit continued to obtain the same quantity of fruit from other sources, and the danger there appears to be very real.

It is easy to see that if we, by limiting the number of our receivers, excluded some who felt that they had a definite market for fruit, they would attempt to obtain supplies from other sources, and, consequently, we should be selling our normal quantity through our selected receivers, in competition with a possibly increased amount of foreign fruit sold through other merchants and brokers.

This does not mean that there would be no advantage on the limitation of receivers, but the question, apart from the difficulty of selection, is a very complex one.

The other points to which I should like to refer are:—

(1) Distribution. I cannot find any evidence that the use of more outports would be of the least advantage to us. The obvious receivers are:—

(i.) London,
(ii.) Liverpool,
(iii.) Glasgow, which can well be developed.
(iv.) Hull; but Hull cannot be very heavily supplied until Continental buying is again established, and would be regarded now as a useful but fairly small market.

Bristol (Avonmouth) and Southampton have excellent facilities for handling fruit, and may sell an occasional small cargo with advantage, but could not, and should not, be developed as large receivers of Australian fruit.

(2) The urgent necessity for eliminating the countless number of small marks. This applies particularly in Victoria and Tasmania, and I have stressed before is very much more dangerous on a low market than under other circumstances. This will mean very difficult work on education and organisation, but it is vital.

(3) The question of the weight of the fruit in the cases is still much to the fore. The trade is convinced that the net weight of American packs is higher than ours, particularly in our Canadian cases, and this has a detrimental effect.

(4) The ever-present and almost insoluble problem of irregular arrivals. Any improvement would be very material help, and simply must be fought for, until some kind of solution is reached.

(5) The continued elimination of varieties.

Our work in Sydney last year was greatly appreciated, and has been of value to us. Unfortunately, the quality of the fruit coming forward, the difficulty of filling contracts and the necessity for varied specifications, and the lack of buying orders from the Continent have reacted against the market.

By strong measures we can, I am convinced, save the market for ourselves.

New Fruits in U.S.A.

Improved Strains of Delicious and Jonathan

NEW "FUZZLESS" PEACH AND NEW APRICOT.

THE WENATCHEE (Washington) district, located in the extreme north-western part of the United States of America, has only an average sized Apple crop. The season is unusually early, and it is expected that it will be harvested about two to three weeks earlier than usual. In recent years the planting of new orchards as to varieties has changed greatly. At present, the new types of Delicious, such as the Richared Delicious and the Shotwell Delicious, both solid red strains, and early coloring, are in favor with planters. The latter Apple was recently granted a United States' Plant Patent. This plant patent protects the originator of any new plant, the same as a patent protects on an invention.

Another new Apple gaining wide favor is the Blackjon—an early coloring, deep red type of Jonathan — which has gained popularity because it can be picked with full color several days earlier than ordinary Jonathan, and goes on the market hard and firm.

The Columbia and Okanogan Nursery Company, of Wenatchee (Washington), has introduced and patented two other new fruits, one named the Candoka Peach, known as the "fuzzless Peach," due to an almost entire absence of fuzz. It is a beautiful large, yellow freestone, with skin color from bright yellow to deep flaming crimson—very striking in appearance, excellent flavor, very solid, making it one of the best shippers. It is being widely planted in all the Peach-growing areas of the United States.

The other fruit, an Apricot named Riland, ripens weeks earlier than other commercial varieties. It is large, globular shaped, color deep Apricot to bright red, flavor decidedly different from other Apricots, but very pleasing. Ships well, and bids fair to become one of the most profitable Apricots, especially for the earlier districts.

Prices in this district are generally higher than a year ago, and growers are contracting Sweet Cherries at prices about double those of 1933. The crop is considerably lighter than last year. Both Apricot and Peach crops are above average.—Columbia & Okanogan Nursery Co.

Wenatchee, Wash., U.S.A.,
15/5/34.

SOUTH AUSTRALIA.

Mid-Murray Notes.

Irrigation :: Cover Crops :: Visit of South Australian Trade Commissioner.

(By Our Special Correspondent.)

Renmark, August 18, 1934—

THE FIRST IRRIGATION of the season is almost completed, and although the top soil appeared bone dry, the subsoil had a fair amount of moisture, judging by the short time in which most growers completed their irrigation. Owing to the dry winter, late planted cover crops have not been as good as usual, but have now pushed ahead rapidly, after receiving this irrigation. A great deal of interest centres around the behaviour of various plants used for cover crops, owing to the fact that it is now becoming a recognised cultural practice, and that our irrigations are timed so as to make it possible to grow

a cover crop

without having to depend on the fickleness of our winter rains. On my own place, I planted Dun Peas in every alternate row, and Tick Beans in every other row, with a few trial rows of King Island Mellilotus.

Peas stood up to the dry winter better than Beans on stiff soil, and, having been planted on April 8, were matured sufficiently by the first week in July to be ploughed under, being then in full flower.

Beans, on the other hand, although doing remarkably well on soils able to retain sufficient moisture to maintain growth, remained stunted on stiff soils. A matter of special interest lies in the fact that the growth of Beans corresponded with the amount of irrigation water applied in the autumn at the time of planting.

In some instances, certain rows on stiff soil were given a light irrigation while adjoining rows were allowed a more liberal supply, and the resultant winter growth coincided with the quantity of water given. King Island Melilotus will not grow in the winter months unless planted with Peas or Beans. A few rows planted at the same time as Peas and Beans shows a growth of only a few inches, while Peas are 2 ft. 6 in. high, and were fully flowering in early July, and Beans matured and flowering in early August.

The Agricultural High School intends putting down plots of legumes next autumn, and will endeavour to demonstrate by way of experiments, the legume which gives best results in bulk matter and nitrogen content. One of the objects to be aimed at is to have a cover crop fully matured, so that it can be ploughed under at least six weeks before bursting of vines, so that nitrification can be completed, and available to vines for the new season's growth. The Adelaide Fertiliser Co. have kindly consented to donate the superphosphate required for the experiment. Past experience has shown that a failure can be expected where no manure is applied to a cover crop, and that 1 cwt. of super per acre gives beneficial results, that 2 cwt. gives greater bulk of organic matter than 1 cwt., and it will be interesting to follow up the matter with heavier dressings to determine what constitutes an economic dressing.

Mr. G. F. McCann, the Trade Commissioner for South Australia, visited this district, together with the Minister of Lands (Hon. M. McIntosh), Deputy Director of Agriculture (Mr. Spafford), Messrs. C. Russell, G. A. W. Pope, Hugh Crawford, J. B. Murdock (Dried Fruits Board), Mr. H. R. Begg (of Keating Francis), E. Shephard (Sec. Murray Wholesale, "Yabalunga" (C. Butler, of "Advertiser"), and F. Donaghy, from Geelong. Local interests were represented by Messrs. C. N. Seary, V. Whalin, R. V. Kemp, D. T. Du Rieu, C. Katekar, J. Price, O. Weste, F. Hooper, C. Ruston, J. Guinand. Mr. H. D. Howie, of the Dried Fruits Export Control Board, occupied the chair. Mr. McCann spoke on many aspects concerning the marketing of wines overseas, and the need for proper organisation among wine producers' interests to get the best results, and on the prospect of expanding the Citrus trade with the United Kingdom, and on the dried fruits trade generally. The speaker said that since his last visit to Renmark, 20 years ago, the place had improved beyond all expectations, and he had not thought such expansion and improvement possible.

The Renmark Hotel, a community-owned concern, has had its annual election, and the following members were elected to the board of management:—Messrs. A. Philpott, Senr., N. Rosenthal, and W. Joyce. In the past year's financial transactions, the hotel made a profit of approximately £4,800, most of which has been allocated to hospital and educational purposes, to the town council, sporting bodies, and many interests concerning improvements to the community.—"Nemo."

South Australian Fruit Marketing Association.

The monthly meeting of the executive of the S.A.F.M.A. was held at Adelaide on July 27.

Present—Messrs. J. S. Hammat, A. O. Peterson, M. Vickers, G. W. Selth, C. E. Russell, T. Playford, G. Mack, R. O. Knappstein, R. B. Pritchard, D. W. Hannaford, A. R. Willsmore, G. Quinn, P. R. B. Searcy, F. F. Redden, H. N. Wicks, M. G. Basey, W. W. Miller, E. S. Mason, J. B. Randell, Smith & Loftes, and E. W. Mills (secretary). Mr. J. B. Randell presided.

Orange Export to New Zealand.

Letter dated July 24 from Messrs. Smith & Loftes advising receipt of telegram from secretary, Department of Commerce, Melbourne, reading—

> "Cannot grant permission exportation Oranges to N.Z., etc., all shipments must be made through Murray Citrus Association, all growers eligible participate equal basis. Please negotiate with secretary."

Messrs. Smith & Loftes made a strong protest against placing the entire export control under one body. Mr. Quinn stated he understood the present regulations only applied to the one shipment, and that non-members of the Murray Citrus Association would be allowed to participate. There was a considerable difference of opinion as to whether this association should take any action. Finally, it was moved and seconded—"that the Minister of Commerce be advised that this association, as a matter of principle, protests against all shipments of Oranges to N.Z. being controlled through one body."

An amendment was submitted that—"the matter be left in abeyance till the next meeting."

The amendment was lost, and on the motion the voting was equal. In view of the deadlock, the mover agreed to amend his motion by the addition of the words, "the shipping section of this association." This was unanimously supported by the shipper members.

Correspondence.

Telegram from Mr. J. B. Mills, advising that Victorian and Tasmanian signatories to A.O.T.A. Agreement considered that no purpose could be served by continuing to obstruct the Dairy Produce Board contract with shipowners, and stating that continued opposition might prejudice the freight discussions in October. It was resolved to advise that it was understood representations were being made in England with shipowners for a three (3) years' contract for fruit at the rate of 3/-, and if this or other satisfactory reduction was made this association agreed to the withdrawal of objection to the Dairy Board's Contract.

Letters from Australian Apple & Pear Export Council enclosing reports from Mr. G. W. Brown in London, and the minutes of meeting of Empire Producers' conference in London. It was decided to request that the report be published in the "Fruit World" for the information of growers.

Letter from Australian Apple and Pear Export Council enclosing cheque, £70, being first instalment of 1934 export levy received through the Department of Commerce.

Telegram from Mr. A. T. Booth, Mount Barker, W.A., asking whether this State had been able to obtain a wider interpretation of word "necessitous" in regard to distribution of fruit growers' relief fund. Secretary advised having replied, stating that the Committee appointed had been unable to obtain a wider interpretation, and that as a result hardly any growers would be eligible for relief in this State.

Mr. J. B. Randell reported that so far only one grower had proved to be definitely eligible.

Re correspondence from Aust. Apple and Pear Export Council, decided to agree to holding annual meeting in Sydney instead of Melbourne if arrangements could be made to meet shipping interests: Proposed new grades submitted by N.S.W., deferred till next meeting.

Motorists Must Not Take Fruit or Plants into South Australia Without Permission.

Motorists have been warned not to take any trees, plants or fruits of any description into South Australia without consulting an officer of the Agricultural Department to make sure they are complying with the regulations.

SOUTH AUSTRALIA.

Waikerie. — A meeting of Waikerie growers was held recently to decide whether four or five irrigations be used.

It was considered that four irrigations were ample for vine growers, but five would be of great benefit to Citrus growers.

Mr. A. V. Lyon, M.Agr.Sc., said that only the top few feet of soil needed water: the excess simply raised the water table.

The following motion was carried:—"That this meeting favors the opportunity to take a ballot on five irrigations provided the Minister agrees to a maximum of 30 inches per season."

The Centenary Royal Agricultural Show will be held at Melbourne from October 18 to 27, 1934. Good prizes are offered for canned, dried and fresh fruits. The Department of Agriculture is erecting a comprehensive display.

AUSTRALIAN FRUIT TREES FOR PALESTINE.

A recent order for fruit trees from the Crown Agent for Palestine was fulfilled by Messrs. L. P. Rosen & Sons, of Carlingford, N.S.W. The trees supplied were—White Sapota, a fruit grown successfully at Carlingford from stock obtained originally from Mexico by Rosen & Sons; Jujabees, a tree of Chinese origin; Loquats, and Macadamia nut trees. A large order from the Department of Agriculture, Washington, U.S.A., was also despatched from this nursery. The trees supplied were mostly Apples and Peaches of various varieties. Altogether, Rosen & Sons have had a very busy season, and large quantities of citrus trees have been sent to New Zealand. Among the citrus varieties asked for by N.Z. growers was Lue Gim Gong, that hangs well and has a very thin skin. There is a big demand for this Orange in New Zealand. There has also been a fair demand for White Sapota, and many trees have been despatched to the Dominion this year.

The fruit of the White Sapota is not unlike an Apple in appearance, and the white flesh is delicious. Ripe fruit can be picked from this tree for eight months of the year, and when it becomes better known, there will be a keen public demand for it.

Mr. J. W. E. Larsen, who directs the activities of L. P. Rosen & Sons, will be pleased to supply particulars of the White Sapota and other new fruits grown at the Fernhill Nurseries.

The Bore: "Out there every man carries a shooter. I was out alone one night and came face to face with a tiger. Up came my shooter, and what do you think?"

"I know. You'd forgotten your peas."

POTASH
—Big Crops
—Healthy Trees
—Quality Fruit
What More Do You Want?

SUN BRAND Potash

TRY IT FOR YOURSELF
3 years will convince you

Use a high-concentration complete mixture, such as 2:2:1, or a minimum of 2lbs. per tree of Potash, with Phosphatic and Nitrogenous fertilisers.

For prices apply to to your fertilizer agent.

Write for further particulars to:
PACIFIC POTASH LTD.
SCOTTISH HOUSE,
19 BRIDGE STREET, SYDNEY

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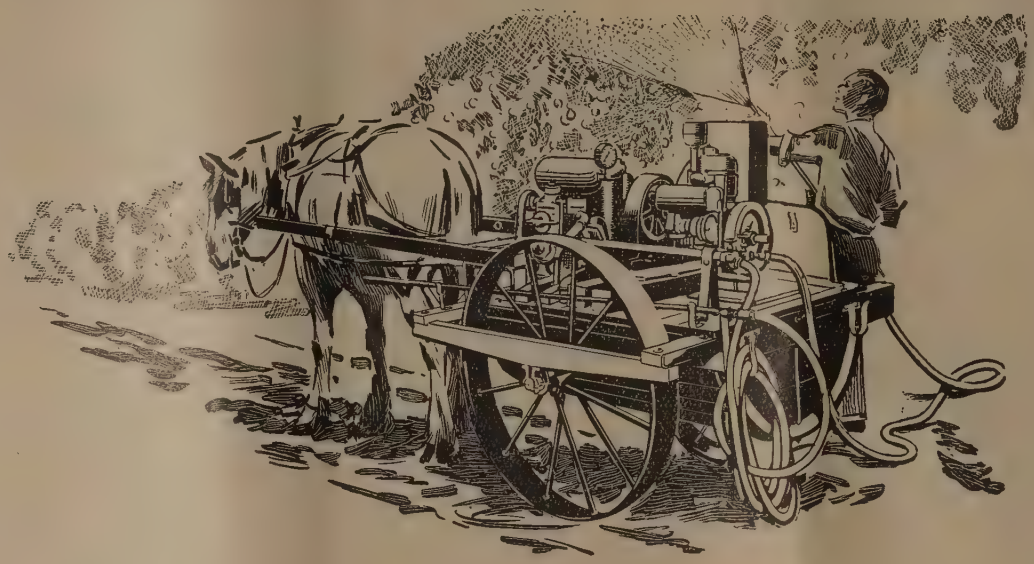

ORCHARDISTS—
Here is your Best Investment

THE latest model Spraying Plant, built by Ronaldson-Tippett, should be part of every orchardist's assets. The Plant is moderate in price and its upkeep costs are low. The initial cost is soon repaid in more and better fruit.

Many entirely new features of construction are embodied in the Ronaldson-Tippett Spraying Plant, and every machine is guaranteed to give year–in–year–out service. With a Ronaldson–Tippett Spraying Plant in your orchard, pests and diseases are soon wiped out. The forceful flow of high pressure spray never falters. It reaches every leaf on every branch.

There is a Ronaldson-Tippett Spraying Plant to suit any orchard from 3 to 300 acres. One of the 10 different models will meet your needs exactly.

NOTE: In the above illustration one of the sturdy mudguards has been removed, to show constructional details.

Small Plants at £47/10/–

RONALDSON - TIPPETT SPRAYING PLANTS

RONALDSON BROS. & TIPPETT PTY. LTD., Builders of Internal Combustion Engines for 30 Years. Largest Manufacturers of Engines in the Southern Hemisphere. Correspondence to Head Office and Works: 144 CRESWICK ROAD, BALLARAT.

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BUY THE RIGHT MACHINE FIRST

When is an Apple Mature?

Sap Flow When Cut — Using the Color Chart — Color of Pips — Changes in Skin Color.

The determining of the maturity of an Apple is a matter which has always provided much thought among growers.

The "Fruit World," enquiring of one grower, was advised that his method of determining maturity was as follows:—To cut the Apple with a knife, and if the sap followed the cut, the Apple was deemed to be mature. On the other hand, if the cut remained dry the Apple was understood to be not mature. This was admitted to be a "rough and ready" method, and advice was sought among others.

Replies to questions on this subject are to hand, as follows:—

From Mr. G. B. Tindale, B.Agr.Sc., Cold Storage Research Officer, Victorian Department of Agriculture:—

This department has for some years been carrying out experiments to determine the relationship between maturity at picking time, and the keeping qualities of Apples in cool store. Results have shown that very green, immature Apples remain hard and woody in cool store, without ever developing any flavor or juice, and often shrivel. At the other extreme, Apples picked when deep yellow and over-mature, soon go mealy in store; and, likewise, lack of flavor and juice, and moreover are very subject to breakdown, particularly if picked on the large size. In between these two stages of maturity is the optimum stage. Picked at that stage, Apples are possessed of full flavor, and will be crisp and juicy, although of course these qualities will gradually disappear with prolonged storage.

The problem, of course (as is asked in the enquiry) is just how to determine the correct stage of maturity. Numerous methods, both chemical and physical, have been investigated, but they all more or less suffer from disadvantages, and from a practical point of view "rough and ready" methods seem as useful as any. Indeed, the method mentioned is probably as good as any.

For a rather accurate method combined with simplicity in operation, we have found the color chart method very useful.

On the color chart are three color discs—Apple green, green-yellow, and chalcedony yellow. These colors correspond to the ground color of an immature, just mature, and over-mature Jonathan. Each color disc is perforated with a large hole, and to determine its maturity the Apple in question is pressed against the holes and the color matched. (It is of course the ground color which is compared and not the blush of the Apple.) Many of the common varieties pass through this particular range of colors as they mature, but for certain other varieties such as the Cleopatra and Granny Smith, a different color range is required.

From Mr. Merton Calvert, Lenah Valley, Tas.:

Regarding the best method of determining the maturity of Apples, there are three important factors, i.e.:

1. The color of the pips.
2. Changes in the skin.
3. Flow of sap.

The first is, in my opinion, the most valuable. When the pips have become brown all over—a quite dark brown — then the fruit is fit to be picked.

Only close observation will enable the grower to make use of my second point. Each Apple, or rather variety, will have its "skin" change. For instance, when the underside of a Jonathan is "turning" from green to yellow, good results will obtain if the Apple is picked.

The flow of sap is also an indication, but this again varies with the variety, and to gain best results, close and careful observation must be used.

From Mr. J. B. Randall, Gumeracha, S.A.:

The question of maturity in the Apple is one of considerable importance since upon it depends to a large degree the flavor and palatability upon which in turn depends the demand of the consuming public for our fruit whether in Australia or overseas.

Of the various methods put forward as reliable tests, only one, in the writer's opinion, is of any real value to the man upon whose judgment in this matter everything depends, i.e., the Apple picker, that one criterion is **the shading visible in the ground color of the fruit**; this while the fruit is growing, is more or less of a deep green, when maturity is approaching the colored sorts take on the various shadings of red characteristic of the particular variety on those portions of the fruit which are exposed to the full influence of the sunlight, but on the parts away from the light a careful observer will detect a lighter tone beginning to show in the green; it is this latter which offers to the intelligent picker a reliable indication as to whether the Apple is fit to pick or otherwise.

The point which it is necessary to emphasise is that in orchard practice there must be

some reliable standard

which can apply as a reasonably reliable guide as to the maturity of each Apple as the picker passes his eyes over the fruit on the tree. Any method which depends upon the cutting open of an Apple is of little value, since in very few cases are all the Apples on a tree at the same stage of maturity at one and the same time, and there must therefore be an exercise of discretion on the part of the picker.

A good deal more might be written by way of amplification of this matter, but this will probably be sufficient to indicate the, in my opinion, only really reliable method that can be put into practice by the orchardist and his staff.

Mr. W. H. Carne, of Pakenham Upper, gives his views as follows:—Re methods of determining maturity of Apples. This is a matter on which it is difficult in my opinion, to lay down any hard and fast rule.

Many growers are guided to a certain extent by the degree of brown color of the pips, but this practice is apt to be misleading in some varieties, such as Yates for instance, in which the pips are brown weeks before the fruit is mature, whereas in Jonathans and some other sorts, it is a fairly reliable guide.

Personally, I am dependent more on the general outward appearance of the Apple, more particularly on the color of the green of the fruit, this gradually changing from a crude deep shade to a paler hue as it approaches maturity, I think a grower must largely depend on his experience, and instinctive impressions as to when it is safe to pick for export.

The method you mention, viz., cutting the Apple and noting the action of the sap may be a help in the determination, but I would not consider it sufficiently conclusive to rely on solely.

"FRUIT WORLD" APPRECIATED IN WESTERN AUSTRALIA.

(The Editor, "Fruit World.")

Dear Sir,—Enclosed please find my renewal subscription.

I always look forward to the monthly issue of the "Fruit World," as I find the articles therein extremely interesting, also the Annual, which I found to be of great value this year, as it contained the packing charts for the Canadian standard Apple box, and the three-quarter Pear box, both of which I used as a trial this season, and as I had never packed either before the charts were invaluable to me.

With best wishes.

Yours faithfully,

(Signed) R. V. GULVIN.

Collie, W.A.,

Another Harvey Production

A Notable and Revolutionary Australian Invention for Plowing Out Orchard Strips

The Famous Petty Plow

The Most Universal Implement Yet Manufactured for the Fruitgrowers.

THE ORCHARD COMPLETELY PLOWED OUT IN ONE OPERATION.

The Cutting Disc can be placed right underneath the frame, thereby plowing the centre of the rows and, when necessary, extended outside the frame allowing the land to be STRIPPED RIGHT OUT BETWEEN AND AROUND THE TREES.

THIS DOES AWAY WITH ALL CROSS PLOWING.

This Machine can also be converted into a One-way Reversible Disc Cultivator with 5, 6 or 7 plates. Also into a Rigid Tyne Cultivator or an Irrigation Furrower of 2 and 3 furrows.

The "Petty" Two-Furrow Disc Orchard Stripping Plow in action plowing the strips out from and around each tree.

WORKS JUST AS EFFICIENTLY ON THE HILLSIDE OR UNDULATING COUNTRY AS ON FLAT LAND.

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- Remarkable ease and quickness of operation.
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- Will plow on or off with the greatest of ease.
- Works equally well with either Horses or Tractor.

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One of the outstanding features of the "Petty" Disc Orchard Stripping Plow is the ease with which the plow can be steered in and out between the trees. This plow is so constructed that the disc wheels can be steered in unison, or separately—eliminating side slip.

Dear Mr. Harvey, Shepparton East, 14th Nov., 1933.

We have now had a good test on over 20 acres in our orchard of your new "Petty" 3-Furrow Plow, and its work has exceeded all expectations. I consider it fills a long-felt want, and it is what I have often longed for in doing this close work on orchard rows. I feel Messrs. Petty Bros. are to be most deeply congratulated on the invention of this fine modern orchard implement, and your firm the same for the efficient and prompt manner in expediting its delivery to orchardists. You were first in the field with modern orchard implements, and you are well upholding your reputation in developing the manufacture of this Plow, which will stand out in a class of its own as the most progressive invention yet made in the interests of orchardists. With all good and best wishes. Yours sincerely, (Sgd.) CHAS. J. NASH.

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Harry Murray, Devonport.

"Harvey" Beetle Back Citrus Cultivator

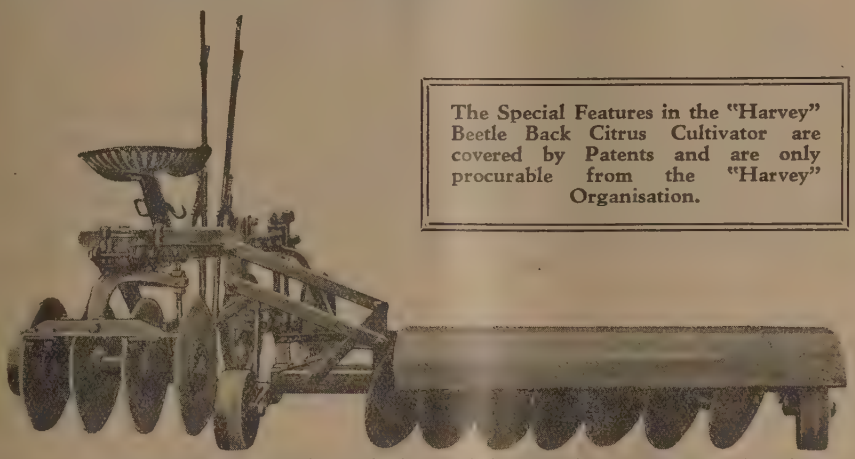
Specially designed to work right under the limbs up to the trunks of the orange and lemon trees. Will lift limbs loaded with fruit off the ground, cultivating to any predetermined depth and then gently putting back in position the fruit bearing limbs without injuring the fruit or fibrous roots. Cuts out all weeds without clogging. It crawls under the branches similar to a beetle, hence the name "Harvey" Beetle Back Citrus Cultivator.

THE ABOVE CULTIVATOR MAY BE FITTED WITH:
- CITRUS DISC ATTACHMENT WITH HOOD.
- SPRING TYNE ATTACHMENT WITH HOOD.
- FURROWING ATTACHMENT WITH HOOD.

Each disc on this machine is mounted on a separate dust-proof bearing fitted with Alemite greasers—each disc is adjustable without removal to more or less breast cut and each disc can be swung around to cut either on or off without disconnecting or even removing a bolt.

The BEETLE BACK GANG is carried on two wide tyred depth regulating wheels, hence the discs may be set to cut only an inch deep with a full cut therefore acting in the nature of a gang of revolving skimmers.

WHEN IN OPERATION.
The highest point to which the limbs are lifted by the Beetle Back would be less than Nine inches.



The "Harvey" Beetle Back Citrus Cultivator fitted with Disc Attachment with Beetle Back Hood.

The Special Features in the "Harvey" Beetle Back Citrus Cultivator are covered by Patents and are only procurable from the "Harvey" Organisation.

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THE "HARVEY" IS THE ONLY GRADER THAT STANDS THE FLAT FRUITS ON EDGE.
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FITTED WITH SPECIAL NEW TYPE GRADING ELEMENT.

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Including Soaking, Wet Scrubbing, Sterilizing, Drying and Dry Polishing Equipment, Sorting Tables and Graders to Give 2 or 3 Qualities.

Built to Suit the Requirements of

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PYTHON now makes the extraordinary announcement that you can further reduce your costs by using the Python Machine and Special Wire. It will cost you only £6/8/10 for the wiring of 2,000 DUMPS, and £10/17/8 for the wiring of 4,000 DUMPS—TWO WIRES.

There is NO DEPOSIT CHARGED—the Machines are leased for 3 years at £2 per annum for maintenance and service and a fraction of a penny per tie. We stock SPECIAL WIRE for fruitgrowers and canners at 3/3 PER THOUSAND FEET in re-wound small coils or spools.

Python is giving universal satisfaction. The briefest testimonial, taken from hundreds, is from the Portland Cool Store & Packing Shed Pty. Ltd., and states:—

"Having used your wire strapping machine throughout the past export season in our packing shed I would like to express our entire satisfaction with the machine. IT IS CERTAINLY THE FASTEST AND MOST ECONOMICAL MACHINE WE HAVE USED.

(Signed) Hugh. M. Williamson, Secretary."

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Victoria: J. B. Mills & Co., Aberdeen House, 528 Collins Street, Melbourne.

South Aust.: Messrs. Paterson & Co. Ltd., Adelaide.

West Aust.: Messrs. Paterson & Co. Ltd., Perth.

Tasmania: Messrs. H. Jones & Co. Pty. Ltd., Hobart.

WESTERN AUSTRALIA.

Fruit Growers' Association Meeting.

AN executive meeting of the West Australian Fruitgrowers' Association was held at Kojonup on August 2, 1934.

Present:—Mr. J. McN. Martin in the chair, Messrs. C. H. Ozanne, J. Sparks and R. E. Doust (Bridgetown), L. L. Hill and C. E. Bolt (Albany), N. G. Brockman (Donnybrook District), H. Price (Eastern Hills), T. L. Hollings (Denmark), T. Skinner and O. A. K. Sounness (Mount Barker), and the Secretary (Mr. A. T. Booth).

The following were present by invitation:—Mr. G. Parke (Argyle), and H. W. Soothill, representing the auctioneers' Association.

Containers.—Mr. Brockman moved that in reply to the letter received from the Primary Producers' Association in regard to the sale of containers separately from produce, that the W.A. Fruitgrowers' Association does not agree to the proposal, it being deemed neither practicable nor desirable. Seconded by Mr. Sparks and carried.

Dump Case Favored. — Letters were read from affiliated associations, expressing their opinion in regard to the class of case most useful for the export of fruit. It was resolved that this Association should recommend the use of the Australian dump case with ends, tops and bottoms seasoned and dressed, and sides to be seasoned only; the latter to be seasoned either by the mills or the grower according to the wish of the grower.

It was also resolved to write to the principal millers protesting against the increase in price seeing that the bottom board is being supplied in two pieces instead of one.

A letter was received from the South Australian Fruit Marketing Association, enclosing a proposed contract form to be used in all States.

Mr. Brockman proposed that the Fruit Shippers' Committee be asked to discuss this matter. Seconded by Mr. Ozanne and carried.

Rail Freight.—Mr. Brockman proposed that a deputation from this Association should meet the Commissioner for Railways before holding of the Annual Conference, with regard to the rate of freight on fruit to markets and also freight on fruit case shooks in view of the reduction of the weight of timber. Seconded by Mr. Sparks and carried.

Bridgetown Growers.—A letter was received from the Bridgetown branch enclosing a full list of growers in their district entitled to be members of the association showing that there were 64 names which had been omitted in previous years.

Mr. Hill proposed that the trustees of the levy fund should be asked to pass a per capita grant on the extra 64 members for the 1933 season to the Bridgetown branch. Seconded by Mr. Skinner and carried.

Increased Fruit Sales.—It was resolved that the Apple Sales Board be asked to carry out a publicity scheme for the greater consumption and sale of our Apples. Seconded by Mr. Price and carried.

Export Grading Regulations.—It was resolved that copies of the proposed alterations in the grades for Apples and Pears, which New South Wales intend proposing at the annual conference of the Apple and Pear Export Council, be sent to each association for their consideration, as the matter will be discussed at the annual conference.

Federal Relief Grant.—The secretary made a report and read correspondence and telegrams which had taken place in regard to the Federal grant to fruitgrowers for losses made in the 1933 season, and it was resolved to ask the Minister for Agriculture to receive a deputation at the time of our annual conference before finally deciding on the method of distributing the grant made to Western Australia.

A telegram was received from Mr. Prowse stating that the 1934 grant was being made without any conditions. Mr. Price proposed that we ask the Agricultural Department to distribute the 1934 grant on a flat rate per case basis on all fruit exported overseas.

Fruit Fly.—A letter was read from the Agricultural Department, stating that the Minister had decided to appoint Messrs. C. H. Ozanne, G. Parke and H. Price as representatives of the W.A. Fruitgrowers' Association on the Fruit Fly Board.

It was resolved to ask our delegates to recommend to the board that orchard registration should be instituted on a permanent basis at an annual nominal flat rate per orchard with the minimum of one tree. That any money required for fighting Fruit Fly should be raised distinctly from this orchard registration (even if collected concurrently therewith) and administered through a trust fund, and that any such collection must differentiate between varieties and districts.

Mr. Hill proposed that our delegates to the Fruit Fly Board should receive travelling expenses and £1 per day while on business of the board from the Apple and Pear Levy Fund until any other arrangement is made by the Fruit Fly Board for the members to be paid expenses. Seconded by Mr. Brockman and carried.

It was resolved that the Agricultural Department should be requested by the Fruit Fly Board to amend the regulations under the Fruit Case Act so as to prohibit the use of second-hand fruit cases, except for the carriage of Tomatoes, Grapes and produce, and then only in restricted areas, and also to produce to the goldfields.

The department to be requested to amend the regulation under the Plant Diseases Act, so that no fruit from Fruit Fly areas be sent into clean districts.

Annual Conference.—It was resolved that the annual conference should be held on Wednesday, Thursday, and Friday, September 12, 13 and 14, to commence at 10 a.m. on the first day.

It was resolved that the conference should be held in the McNess Hall, Pier-street, Perth, and that the Minister for Agriculture, Mr. W. Millington, should be asked to open the conference.

FIJI BANANAS.

No Alteration to Ottawa Agreement Contemplated.

The Hon. Jos. Francis, M.H.R., Assistant Minister for Defence advised, in reply to a protest against further concessions to Fiji that no concessions other than those provided for in the Ottawa Agreement, have been made to Fiji on Bananas imported into Australia, and that none are contemplated.

A PROLIFIC BEARER.

Among the new novelties at the Fernhill Nurseries is the White Sapota, a native of Mexico. This tree is a prolific bearer of fruit which is shaped like an Apple. It has a delicate melting flesh and a rich Peach-like flavor. Ripe fruit may be picked eight months of the year. Rosen and Sons have now young grafted trees for disposal. Many new varieties of Strawberries from U.S.A., which give excellent results are also available this season, as also are twelve grafted varieties of Pecan Nuts imported from Texas. There are a thousand of these grafted Pecans for sale. These new varieties are a big improvement on the old varieties.

A new Nectarine will also be available this season. It is named "Masterpiece," and has a rich Peach flavor. It is of large size and very attractive coloring, being deep orange yellow flushed with red. It has a good firm skin and is a vast improvement on the general run of Nectarines.

IN SEPTEMBER, the root feeders of trees and vines will commence their eager search throughout the soil for available nitrogen. The crop of fruit which they set, its ultimate development into suitable maturity and size, and their resistance to dry weather, frosts, wind, heat waves, and pest attacks, will all largely depend upon the quantity of nitrogen which these feeders can procure at this critical period. Most of the nitrogen which was applied to the soil, in whatever form last year, has been leached away, and, as bacterial activity is low at this time, organic forms will become only slowly available. What more desirable means of ensuring an adequate supply could there be than Sulphate of Ammonia—immediately available, and the cheapest form of nitrogen procurable.

H14/34

Home Truths and Satire

(By "Cot Case.")

(Reprinted from "The Horsham Times.")

"Ole Man River, he must know somethin'
He jus' keeps rollin', keeps on rollin' along."

Recently the perplexed orchardists foregathered on the banks of the old Wimmera River in the up-to-date school buildings situated on the pretty bend of the picturesque settlement of Riverside, near Horsham. Riverside has quite an interesting history, like all kindred settlements, with its ups and downs. A "down" the inhabitants have this year struck with a vengeance. A benevolent Government gives its assistance in the establishment of the valuable settlement. Men are urged to take up blocks and plant them, and they do. Water is supplied at a great cost. The "fruits of the earth" are grown. Most people desire them and buy them. The business is mutually profitable, and "the desert bloometh as a rose." Parents rear their families in ideal circumstances. Children are happy. A school is built for them and a pleasant state exists. Settlers pay their way. They buy and sell in freedom. No restraint of trade. A little money is put by for a dry period and also for old age. The produce (the basis of all the work) was sold where a market existed. Jam manufacturers as well as private customers wanted their fruits and the business flourished. But a day came; alas, it is here now. The manufacturers could not buy the products of hard toil and patient work of the year and private buyers could not consume the whole crop. The ploughing, the tilling, the pruning, the spraying, the careful watching for the whole year were all for nought. Seemingly, the industry had never been so well catered for before by the Government. True! Government (that mighty power) had appointed a "Board" to fix the price of fruit for the grower. Government, too, had appointed another "Board" to fix the price for the manufacturer to sell at. So protection is given fore and aft. Still, the fruit cannot be sold, and why?

"The old man River, he must know somethin'. He just keeps rollin' along."

One lesson to be learned from the river is that he demands to be left alone and pursue the even tenor of his ways according to the natural plan. For centuries he has gone on his way, sometimes full and flowing and sometimes sluggish, according to how nature sent the rain. Before the advent of the white man the river was the mightiest force in the land. The black man found food along his banks as well as

the native fauna. It is true obstructions in the shape of weirs are placed in the river at different points. "Boards" are put in to dam the water back in normal times. But when heavy falls of rain occur these are quickly removed and the river is allowed to flow in its natural way as has been the case for long periods. Otherwise, with floods or glut of water, the "Boards" would be quickly knocked aside and with logs and fallen trees join the brimming river, and the weirs would be no more. So it is when we come to trade. Trade, like the river, must flow in its natural channels. Some seasons there is a shortage of products; other seasons a glut. So men come to listen to quack nostrums and false ideas of "stabilising" prices and rush to the Government to "fix the price." How can any Government fix a price? The natural laws of supply and demand are the only things that can fix a price, and Governments, when it comes to trade, must work under these laws or else chaos and loss must result to the producer. This is what has happened in the fruit trade. As said before, a "Board" fixes the price to be paid to the grower; another "Board" must agree to the sales made by manufacturers. A glut is on now, but different to the river. The "Boards" remain and will do so until swept aside by a "flood" of honest public opinion.

So one may stand on Faux bridge, near the Riverside settlement, while the town clock strikes the evening hour and pause on these happenings. He will hear the frogs croaking — croaking in derision at man's wonderful sagacity in manipulating markets and his utter failure to accomplish anything other than by the natural plan. The frogs seem to say, naturally and sharply. "Board," "Bored." The river flows on, and the fruit falls to the ground and rots in the soil from which it sprang.

Horsham, Vic., March, 1934.

True Happiness.

"True happiness in living — true understanding of life—cannot come while we have national hatreds, intolerant religious beliefs, keen competition in the grasping of worldly property, and selfish, worldly thought of material things. Nationalism is a disease and must be stamped out. Organised religion, based largely on fear and authority, turns out believers like so many Ford cars. The real unity of mankind is being destroyed by nationalism and religions. To the vast multitude a God or a religion is just an escape from the world. Seeing the chaos around them, they turn to religion for comfort. Religion helps them to run away. They lose their individuality and their ability to give their own intelligent thought to their problems."—**Krishnamurti, Hindu teacher.**

Manures for Fruit Trees.

6 lbs. Sulphate of Ammonia in September Better Than 3 lbs. in May and 3 lbs. in September.

On behalf of the Research Sub-Committee of the South Aust. Fruit Marketing Association, Mr. H. N. Wicks tabled reports by four members in connection with sulphate of ammonia manurial tests, to the effect that the application of 6 lbs. applied in September was undoubtedly superior to 3 lb. in May and 3 lbs. in September.

The reports tabled this year showed the following:—

	Clare.	Cudlee Creek.	Cherry Gardens.	Balhannah.
3 trees, no manuring	230	740	117	50
3 trees, 2 applications May/September .	275	640	284	48
3 trees, 6 lbs. September	359	873	384	83

Duchess Pears showed practically the same results.

What is a Canadian Case?

Are We Using the Correct Thickness of Timber?

WHILE discussions are taking place as to the relative merits of the Canadian and dump cases, the question has been prominently raised: "What is a Canadian standard bushel case?"

Is it sufficient to say that it is a case having the dimensions of 18in. x 11½in. x 10½in., without taking into consideration the specifications of the case itself? For example, the Canadian standard bushel case as used in Canada, U.S.A. and New Zealand, is made of thicker timber than the so-called Canadian case used by many Australians.

On questioning growers and case makers, the statement was made that with the thinner timber, which is demanded in many quarters in Australia, the cases can be obtained at a lower price than cases made from the correct specifications of a real Canadian case.

The following figures show the comparative specifications:—

Canadian Standard Bushel Case.

As Used Abroad:—
Sides—Bare ⅝th.
Tops—Full 3/16ths.
Bottoms—Full 3/16ths.
Ends—Full ⅜in. after dressing.

As Used largely in Australia:—
Sides—9/32nds, or bare 5/16ths.
Tops—5/32nds or bare 3/16ths.
Bottoms—5/32nds or bare 3/16ths.
Ends—⅝ths before dressing.

Particular attention is directed to the thickness of the side pieces (⅝ths), as used by our competitors abroad. Notice the comparison of the side pieces as used largely in Australia (9/32nds, and very often only ¼in.).

Attention has been frequently directed by experts and shipping people to the apparent thinness and flimsiness of our containers.

It has been pointed out that it is not fair to compare the results of the so-called Canadian case (as used in many places in Australia) with the dump case, whereas in fact, the Canadian case is not being used at all, further, that with the long journey from the Australian orchard to its destination in Great Britain or the Continent, a case of sufficient stoutness is imperative.

The attention of the "Fruit World" has been drawn to the foregoing, with a request for publication and to invite the expression of opinion of growers and all interested in this subject.

It is worth while mentioning that at least two prominent packing organisations in Australia—at Batlow and Kentucky in N.S.W.—have adopted the real Canadian standard case, i.e., cases not only having the dimensions 18in. x 11½in. x 10½in., but also possessing the correct specifications, as regards requisite thickness of timber.

[The Editor would welcome correspondence in relation to the foregoing aspects of the case question, and any other aspects relative thereto.]

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Offices and Salerooms of the Six Leading Fruit Brokers of Hamburg
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PRACTICAL . . . ORCHARD HINTS

CHERRIES — APPLES — CITRUS — PINEAPPLES.

The Imperial Bureau on Fruit Production, at E. Malling, Kent, England, has issued a valuable publication entitled "Horticultural Abstracts," giving a summary of practical articles on fruit production from various parts of the world. Several of these articles were written by officers of the Departments of Agriculture in the Australian States. Hereunder are some of these extracts:—

"Cherry Growing in Victoria" (by F. J. Greatorex, in "Jour. Agric., Vic.").

Twenty-six of the varieties commonly grown in Victoria are individually described, the most popular being Bedford Prolific. There is a short discussion on the most suitable soils and locations for the orchard. The remainder of the article deals with rootstocks and seed raising. Three stocks are in use in Victoria, viz. Prunus Avium (Mazzard), Prunus Cerasus (Kentish), and Prunus Mahaleb (Mahaleb). These are described. Mazzard is the stock mostly used, and is generally imported from France as seedlings, arriving in the summer (January). Methods of layering are described, which, if generally adopted would enable the importation of seedlings to be discontinued. Trees on Mazzard are considably larger and more productive than on other stocks and, though they take longer to come into bearing, have a longer life. They are more resistant to gummosis and black aphis than Kentish stock. Kentish stock has been used for many years. It is unsatisfactory on poor soils and induces a tendency to overcrop in some varieties. It is shorter lived and more subject to disease than Mazzard. The scion invariably overgrows the stock, starting to do so when the tree is three years old or less. The stock has a distinctly dwarfing effect. The stocks are usually raised from suckers, although this results in a one-sided and shallow root system and an ill-balanced tree. To this is attributed the fact that many trees on Kentish stock incline at an angle of 10 deg.-15 deg. The stock can also be raised from cuttings and root pieces. Better results are always obtained with this stock if the scions are grafted on the root as a root graft, or, if this is not practicable, then as near to the roots as possible. Mahaleb is little used in Victoria. It comes into bearing earlier than Mazzard, withstands heat and cold better and will stand more pruning than either Mazzard or Kentish, and it is very resistant to gummosis. Trees on it live longer than those on Kentish stock, but not so long as those on Mazzard. It has a dwarfing effect and the union between stock and scion is not always good. The stock usually outgrows the scion, the reverse of the case with Kentish. The stocks are imported as seedlings from France, but can be raised from cuttings and layers. Instructions are given for raising seedlings, both of stocks and of scion varieties, emphasis being laid on the need for careful stratification, since improper storage of seeds is the main cause of failure. Imported seed is very unsatisfactory.

"The Organisation of Citrus Production" (by D. Casella, Ann. R. Staz. Sper. Frutticoltura e di agrumicoltura, 1933).

The writer surveys concisely the present position of citrus production in Italy, and the steps which are being taken to standardise production on a high level. Lemons are responsible for nearly 55 per cent. of the total citrus production, Oranges come next with some 37 per cent., and are followed by Bergamots 4 per cent., and Mandarins 3 per cent. Various cultural practices are touched on and the most promising varieties for different purposes are discussed.

"A Convenient Method of Topworking Citrus Trees" (by R. C. Owen, Dept. Agr., Western Australia, 1933).

The method advocated is the side bark graft. A "T" incision is made in the bark of the selected limb, and the scion wood containing 2-3 buds and previously cut diagonally to a chisel point is inserted. A piece of bark immediately above the "T" may be removed to make the scion fit snugly. The graft is then bound in and waxed over. The scion usually remains dormant after healing till the tree is cut back. As soon as this is done it begins to grow vigorously. The best time for this work is spring, though any time when the sap is flowing and the weather reasonably cool will give fair results.

"The Economic Importance of the Citrus Industry in South Africa" (by H. Clark Powell, Univ. of Pretoria).

The present position of the citrus industry in South Africa is reviewed from an economic standpoint. At present this is distinctly favorable. The author stresses the importance of the Ottawa Agreements in giving South Africa an opportunity for competing in the markets of the U.K. on very favorable terms, and urges growers to seize this opportunity which may by no means be permanent, and by shipping only high-grade fruit to create a demand for South African Oranges which will prove lasting. The need for a scheme whereby marketing overseas is done only through the Citrus Exchange under a national brand, which should be a guarantee of the highest quality, is regarded as an essential step both to maintain prices and to establish confidence with buyers. The manner in which such an exchange would operate both at home and in the purchasing countries is worked out and given here in some detail.

"Harvesting and Packing of Pineapples" ("Queensland Agr. J,", 1933).

The importance of correct methods of selecting mature fruit is emphasised. For Queensland the Fruit and Vegetables Act of 1927 lays down the following maturity standard:—"In the case of Pineapples, fully developed fruit which during the months November to March shows a distinct tinge of yellow color at the base, and during the months April and October is quarter yellow colored at the base." Harvesting should be done with a sharp knife, leaving not more than ½ in. of stem at the butt of the Pine. The fruit being very easily bruised, care should be taken to see that it is dry, particularly at the stem end. As a protection against water blister, the cut stalks should be rubbed either in benzoic acid powder or in a mixture of benzoic acid and kaolin, the kaolin not to exceed four times the weight of benzoic acid. At the packing shed fruit should be stacked tops up to facilitate drying. Each case should be filled only with Pineapples of uniform size. Grading consists of packing uniform sized Pineapples to give certain counts. The packing case should be 24¾ in. by 12 in. by 12 in. The case contains different counts according to the size of the fruit. The counts of 11 to 14 are packed in layers of one line only, all the tops of each layer pointing one way, the successive layers being superimposed head to tail with the butts touching the side of the case. Contents of 18-24 are packed in two rows of each layer, the butts of the opposing rows touching opposite sides of the case, with the tops between the opposing fruits.

"Twenty-five Years of Orchard Soil Fertility Experiments" (F. N. Fagan, and others, Pennsylvania Sta. Coll. Agr. Exp. Sta. Bulletin).

In 1908 one-year-old Northern Spy trees were planted, and in the following year were top-worked with Yorks, Staymans and Baldwins. The general layout, projects and purpose are briefly outlined, and the more notable results detailed. In each major project some 200 trees acted as experimental material. Randomization was not adopted. From this quarter-century of research the authors draw certain conclusions which include the following:—(1) Fertilisers are only part of the problem of soil fertility. This

involves the nature of the soil, its depth and topography, previous treatment, the use of fertilisers and manures, cultivations and covers or sods grown. (2) Where in this orchard a treatment has influenced trees, it has done so in the following order:—First cover crops; next, perhaps several years later, leaf color; shortly afterwards branch growth and girth increase; and lastly yield. (3) The reason for this sequence is that all treatments have influenced yields chiefly by changing the organic matter content of the soil. (4) Treatments which have built up the organic content have kept the soil in condition to absorb and not lose moisture. (5) Slope, though only slight to the eye, has created differences in growth and yield nearly as great as those induced by any treatment given. Good treatment have only nearly offset initial disadvantages of poor soil. (6) A short, non-legume sod rotation is an efficient means of building up a depleted orchard soil. It should be turned or partially broken often, otherwise tree growth will be checked. (7) Moisture conditions are more favorable in the sod than in the cultivated orchard. (8) Under a non-legume sod soil nitrates have become very low in early summer, necessitating early application of nitrogenous fertilisers. (9) To maintain equal yields, Stayman and Baldwin must make longer branch growth than York.

FRUITGROWING IN HUNGARY.

It is reported from Budapest that fruitgrowing is being reconstructed in Hungary: Apples, Peaches and Apricots being specialised. The objective is apparently collective farming. In one area one million trees have been organised into one farm and divided into sections. The objective is to bring 200,000 acres under control.

An apple leaf affected with Black Spot.

Granny Smith Apple affected with Black Spot.

★

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Borers in Stone Fruit Trees.

South Australian Experiences.

THE PRINCIPAL BORER attaching stone fruit tree stems and limbs is the larva or caterpillar of a moth figured in French's "Destructive Insects of Victoria," Part I., page 112, under the name Maroga gigantella. (It is more often now called Cryptophasa unipunctata, writes Mr. Geo. Quinn, S.A. Chief Hort. Instructor in "S.A. Jour. Agric."). The moth has a wing spread of about 2¾in., the front wings being creamy white in color with a single dark dot—hence the name "uni-punctata" — in the middle of each wing. The hind wings are of a plain grey color. The fully grown caterpillar found in the tunnelled wood is about 1½ in. long by nearly a quarter of an inch thick. The head is black and the next two or three segments dark brown; the rest of the body of a pale creamy-yellow color. It is a native insect, and the larvae are often found in Banksia or native honeysuckle trees.

The moths deposit their eggs in crotches or forks where limbs join the trunk or on the trunk itself, and particularly like places where gum may have exuded owing to some damage or twist. When the small caterpillars hatch, they gradually tunnel under the bark and raise masses of sawdust-looking frass. They continue boring in these softer parts until fairly well grown, and then they strike into the hard wood of the limb or stem. There is not, to my knowledge, any effective way of preventing the moths depositing on the trees—though winter oil sprayings may do so—but the young caterpillars soon reveal their presence by the evidence of the newly pushed out sawdustlike borings. If, when the stone fruit trees—including Almonds—are bare of leaves, it needs no very close scrutiny to detect these evidences of boring having commenced.

At this early stage a strong knife or scraping tool will quickly remove the shallowly located borers, and a coating of Stockholm tar or old paint will cover the wound from the wet or drying air. At these early stages only very minute semi-transparent grey-looking little caterpillars are found. If not dealt with in the early stages, the caterpillars—as previously remarked — tunnel into the wood and may take either an upward or downward or devious course.

The best procedure when borer hunting is to scrape away sawdust, gum, etc., until the mouth of the tunnel is revealed. Push a flexible wire in as a probe and note whether the end is wet or slimy when withdrawn — indicating the pest is well punctured. If the tunnel is very irregularly bored, the wire

will probably fail to prick the culprit. It then becomes necessary to suffocate the borer, and the best reagent is carbon bisulphide put on to a little cotton waste or wadding, and thrust into the tunnel, which is immediately plugged airtight with clay or a close-fitting wooden plug. I am told that the fumes of ordinary petrol evaporating from cotton or wool waste used in a similar manner will also kill the borers, but have not tested it. The fumes of burning sulphur would be effective if they could be injected into the tunnel before closing it against their escape.

These pests are not difficult to control, but careful attention during each winter is desirable where the pest has been found much in evidence. The South Australian raised varieties of Almonds are most prone to "gumming" and this encourages the egg-laying upon such sorts.

NOTES AND COMMENTS.

Mr. W. B. Robson, representing Messrs. William Cooper & Nephews (Aust.) Ltd., after a recent visit to Mildura, stated to a "Fruit World" representative that the show of buds was promising for a good crop.

He noted that there was less acid iron swabbing than in the past. This was probably due to the general lessening of black spot, but it was a question for growers to consider whether they were wise in taking a risk in not doing the acid iron swabbing. Certainly the cultural practices had been improved. Mildura was stated to be a model settlement, growers were very efficient.

* * *

Mr. Robson expressed appreciation of the reported activity of the new Victoria Mark Fruit Co. in Australia, towards having Apples, Pears and Peaches sold by the count instead of by weight. A considerable quantity of fruit was sold in Sydney at quantities less than one pound.

Fruit for Manchester. — Captain W. J. Wade, representative in Australia, has drawn public attention to the need for decentralisation of shipments, and the value of Manchester as a port for Australian fruit and produce.

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Parasite for the Codlin Moth

-*-*-*-

Important Discovery in Victoria

-*-*-*-

Scientific Investigation to be Made.

-*-*-*-

OF VERY GREAT INTEREST to the fruit industry of Australia is the fact that a codlin moth parasite has been discovered in a Victorian orchard.

The parasite is well established and breeds rapidly.

A full investigation will be conducted by the Dept. of Agriculture when the findings will be published.

* * *

The codlin moth parasite was discovered on the orchard of Messrs. A. and F. Belcher, at Emu, near St. Arnaud.

The parasite is a kind of wasp and is twice as large as the woolly aphis parasite Aphelinus mali—and it breeds just as quickly. Right now the parasite is thick throughout Messrs. Belchers' six-acre orchard.

Mr. Belcher has preserved the insect in all its forms in order to have rapid classification by scientists.

When the codlin moth grub spins its cocoon it remains as a grub before turning into the chrysalis stage.

The parasite apparently eats its way into the cocoon and stings the grub—thus paralysing it—and lays eggs alongside. The maggots of the parasite, as they develop from eggs, devour the codlin moth grub.

Then the parasite maggot goes through its own life cycle by spinning a cocoon and finally emerging winged and ready to carry on the good work.

Mr. Belcher finds that bandages placed round the trees are excellent as breeding places for the parasite over the winter.

Care is taken, hovewer, that the bandages are not allowed to act—during the period of codlin grub activity—as breeding places for the codlin.

This point is mentioned as showing how easily the parasite can be perpetuated.

* * *

The principal fruits in Messrs. Belcher's orchard are Apples and Peaches. Apples: Romes, Delicious, Statesman, Jonathan, etc. The Jonathans are being worked over to Granny Smith. Peaches: Brigg's Red May, Mayflower, Hale's Early and Elberta.

A ready sale for the fruit from this orchard is found in the towns of Donald and St. Arnaud.

Western Australia

Pineapples and Bananas at Gascoyne.

Passionfruit and Papaws also Grown.

It is anticipated that while only small plantings will be made of Papaws and Passionfruit at Gascoyne, the Pineapple area will be increased and the Banana plantings will be as heavy as last year.

Small quantities of Ripley Queen and McGregor Pineapples are being harvested, and prime Papaws will be harvested. High prices are being obtained on the metropolitan markets for summer glory beans, but shipping facilities are not available from the Carnarvon port.

The following are the Gascoyne shipments during June:—Two cases papaws, eight cases Pineapples, 98 cases Beans and 162 cases of Bananas; 3,613 cases of Bananas were shipped to Fremantle for the year ended June, 1934.

The foregoing is contained in a report from the tropical adviser to the Dept. of Agriculture (Mr. G. B. Barnett) to the Director (Mr. G. L. Sutton).

At the August meeting of the Bridgetown Fruitgrowers' Association, Mr. C. H. Ozanne presiding, application forms for fruitgrowers' relief were received from Mr. Wickens. A discussion took place on the proposed Orchard Tax: it was decided to discuss this matter further, also the fruit-fly question prior to the Perth Conference.

Mr. Flintoff stated that inspection of fruit was more necessary in the Perth markets than in the orchards.

The following delegates were appointed: Messrs. C. H. Ozanne, W. P. Scott, E. Abbotts, F. E. S. Willmott, R. W. Scott, S. N. Bolton, R. E. Doust and Owen Sparks.

The annual conference of the W.A. Fruitgrowers' Association will be held at Perth on September 12.

For working fruit trees, grafting is performed in early spring.

The reworking can be continued by budding in late summer and early autumn.

Cold Storage In Australasia

REFRIGERATION EXHIBITION.

An exhibition of refrigeration plant for food preservation was held at the National Museum of Science and Industry, South Kensington, England, from May until the end of August. The exhibits included models of a refrigerator ship, ordinary cold store, gas store, and a refrigerated rail van, and also models dealing with fruit and vegetable research carried out at the Low Temperature Station, Cambridge, the Ditton Laboratory, East Malling, and the National Physical Laboratory provided by the Department of Scientific and Industrial Research. Another exhibit illustrated that ice does not cool the air because of its low temperature, but because in changing its state from ice to water it absorbs the heat from whatever surrounds it. An exhibit using solid carbon dioxide which changes directly from a solid to a gas at 109 degrees F., and which supersedes ice for many purposes was also included. Through this exhibition which is largely due to Sir William Hardy, F.R.S., who was chairman and director of the Food Investigation Board until his death, visitors will be able to better appreciate that in the storage of fruit the limits of temperature within which good storage results can be obtained are comparatively narrow.

Gas Storage.—Carbon dioxide is necessary as well as oxygen for the existence of fruit in a storage chamber and under the gas storage system this has been abundantly demonstrated. By this method the fruit is stored in a more or less gas-tight chamber, the ventilation of which can be adjusted. The model at the exhibition was a miniature of a converted hop-kiln, and the accompanying literature stated that disused hop-kilns could be conveniently adopted for such storage purposes when insulated with granulated cork and rendered gas tight by being lined with galvanised sheets smeared with vaseline. A circular duct passed up the middle of the kiln. The upper part contained a fan which circulated the cooled air through the fruit cases and a direct expansion evaporator coil was situated in the lower portion.

GAS STORAGE OF PEACHES.

It has been indicated by recent experiments conducted by the Council for Scientific and Industrial Research that a storage life of more than eleven weeks might be secured by using gas storage with appropriate temperatures for Peaches.

Gas storage for Apples has proved to be very effective in England as it delays senescence and thus lengthens storage life.

A retardation in subsequent ripening is shown in gas stored fruit which took eight days to ripen at 65 degrees Fahr., whilst air stored fruit at a similar temperature only took two days.

Peaches would take eighteen days to ripen at 45 degrees Fahr., which would be the prevailing temperature in England when they arrived. The fruit could be stored for eleven weeks (including time to ripen) and it is not improbable that a higher concentration of carbon dioxide could be used with safety. Less mature fruit could probably be stored for a longer period.

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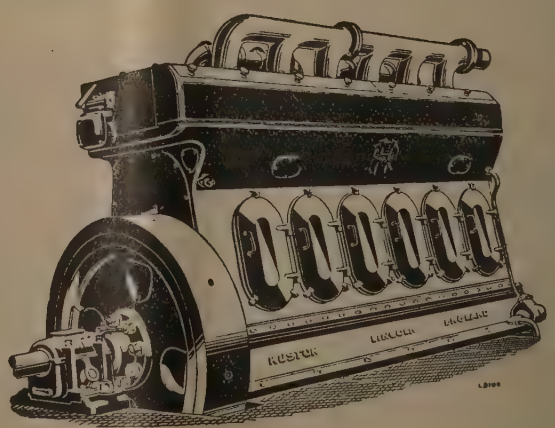

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Citrus News and Notes.

Reworking Citrus Trees.

IN THE REWORKING of citrus trees, the Supt. of Horticulture, Mr. Ward, points out that it is not so much a matter of varieties as far as Victoria is concerned, as it is for types of varieties. Type particularly applies to Navel Oranges, and to a lesser extent, Valencia Oranges. Victoria for the most part produces mostly two kinds of Oranges, i.e., Navels and Valencias. Other varieties grown are exteremely limited in comparison with these two.

Navel Orange trees are noted the world over for the production of off type fruit; and in this respect Victoria is no exception. In fact, it is generally agreed that of our total production of Navels, we produce only something like 10 per cent. of a really good type. The good type Washington Navel usually realises something like 2/- to 4/- per case more than the poor or "off" type fruit. This difficulty can be largely overcome by reworking the off-type trees over to the desirable type.

As in the instance of deciduous trees, growers in the past have been in the habit of cutting the tree back to the stump for reworking purposes, and by so doing a heavy loss in production for some three or four years results. This practice is not recommended.

When a citrus tree is about to be changed over from one variety to another, something like two-thirds of the branches should be removed, thinning out those in the centre of the tree and leaving the lower buds to produce fruit for a period of some three years or until the wood from the newly-worked buds is in a position to produce crops.

The limbs left in the tree also act as a shade for the tree trunk and thus prevent sun scald of bark.

New growth will develop

as the result of the cutting out the centre of the tree; the best of these are selected and are budded over with buds taken from a tree that has proved its capabilities for producing a really first-class type of fruit.

The budding of citrus trees is carried out during September and October and again in February, March and April. The same practice of re-working also applies to Lemon and other citrus trees.

NOW IS THE TIME FOR BUDDING OPERATIONS.

Improved Types of Navals Bring 2/- to 4/- a Case More than the "Off" Types.

PLANTING CITRUS TREES.

A Seasonable Spring Reminder.

In certain districts not subject to heavy frosts, planting in the autumn, from late February to April, is very satisfactory, but with these exceptions the late winter or early spring (after frosts have ended) is the best time for planting Citrus trees, states the N.S.W. Department of Agriculture.

The distance apart for spacing the trees is largely determined by the district and class of soil. Generally, a satisfactory minimum distance apart for Orange trees in the best class of soil is 22 feet, whilst in less favorable soils 20 feet apart is usually adopted. Lemon trees may be planted at similar or slightly greater distances, for they quickly develop into trees somewhat larger than Orange trees. The square system of planting is recommended as being the most economical for cultivation.

Great care should be taken that the roots of the young trees are not allowed to become dried out by exposure to the sun or air between the time they are lifted in the nursery and the time they are planted. It is a good plan to dip the roots in a puddle of clay before packing to reduce loss of moisture while in transit. Such puddled clay should be washed from the trees before planting in the orchard.

The ends of all damaged roots should be cut off smoothly, and the roots well spread in the hole and covered with loose moist soil, which should be pressed tightly around them. The trees should not be planted deeper than the depth at which they stood in the nursery, and in shallow soils where top-dressing is practised they should be planted rather shallower. When planting is completed, the ground should be ploughed up to each row of trees.

If the weather turns dry after planting, the trees should be irrigated or (if irrigation be not possible) each tree should receive a couple of buckets of water. This should be applied by forming a basin round the tree, and after the water has soaked away, filling the basin in with dry soil. The tree should be cut back on planting. Removal of the leaves is also recommended to prevent too rapid transpiration before the tree becomes re-established.

If the leaves along the stem drop, as they often do, the bark should be protected from the hot sun with hessian, paper, or other covering.

In districts subject to frost, the trees should be sheltered by bushes, bags, or cornstalks for the first two or three winters after planting.

MANDARINS IN QUEENSLAND.

High Quality Praised by N.S.W. Expert.

ON his return from the Brisbane Show, Mr. R. J. Benton, Citrus Specialist, in the N.S.W. Department of Agriculture, stated he had been astonished at the high quality of Queensland Mandarins. These had a much higher juice content than many of the Mandarins grown in N.S.W.

The bulk of the Mandarins grown in Queensland, stated Mr. Benton, were either seedlings or worked on seedling Mandarin stock, which was apparently a superior method to that generally in vogue in N.S.W., where Mandarins are mostly grafted on to rough Lemon stock.

Some idea of the excellence of the fruit could be gained from the fact that although plenty of N.S.W. Mandarins are available, Queensland fruit sold at 6d. a dozen in Brisbane shops.

Grant for Mandarin Growers. — The £10,000 Grant to Mandarin Growers is to be allotted as follows:—N.S.W., £8,515; Victoria, £216, and South Australia, £126. An additional £10,000 will be provided for its own growers by New South Wales.

GOSFORD CITRUS PACKING CO.

It was shown by figures submitted at the annual meeting of the Gosford Co-operative Citrus Packing Co. Ltd., that a profit of £653 had been made during the preceding year, the total output being 101,964 bushels.

Regular shipments are planned by nine vessels up to September 4. It is hoped to increase the exports from 26,618 to 40,000 this season, the export quota for July being 18,000 cases.

Results has shown that coastal grown Citrus, carefully packed and processed, with a reasonably fast transport and air circulating refrigerating sys-

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Tasmanian Growers ship through Eric Burgess Pty. Ltd., 88 Collins Street, Hobart.
Victorian Growers ship through Fred J. Andrew, 153 William Street. Melbourne.
New South Wales Growers ship through C. Geo. Kellaway & Son, Office 42, City Fruit Markets, Sydney.

tems, could be safely landed on the English and European markets.

Messrs. T. C. Morrison (manager), K. M. Cohen, W. G. Robinson, W. C. Kelly and G. Davidson were re-elected as directors, there being no new nominations.

The new premises, of steel and concrete, on the site of the building recently destroyed by fire, are nearing completion.

VICTORIAN CITRUS CROP.

1933 Season a Record for Oranges.

According to figures supplied by the Victorian Government Statist (Mr. O. Gawler), the Orange crop in 1933 was the largest on record,—658,461 bushels. This compares with 566,398 bushels in 1932 and 647,410 in 1931.

Lemons.—1933-34, 208,546 bushels; 1932-33, 165,335 bushels; 1931-32, 224,144.

Grapefruit.—1933-34, 11,858 bushels; 1932-33, 8,276.

Mandarins.—1933-34, 21,622 bushels; 1932-33, 25,833 bushels.

CITRUS IN VICTORIA.

July was a very dry month in some Citrus districts, and large trees in several groves showed signs of wilting, states the Victorian Department of Agriculture. Navel Orange trees in this condition can be materially relieved by picking a portion of the crop. Early irrigation will be essential in these districts.

Growers, who have picked their Navel Orange trees, are recommended to undertake any necessary pruning operations on this variety during the next month or six weeks.

The quality of Washington Navel Oranges has been good this season, and Grapefruit will be found more palatable now than earlier in the season.

Growers who anticipate further reworking of unprofitable varieties of Citrus should make arrangements for cutting back the trees during September, and those desiring bud-wood for spring budding should order same promptly.

Mildura.—On his recent visit to Mildura, Mr. J. M. Ward, Victorian Superintendent of Horticulture, described the activities of the Department of Agriculture to assist Citrus growers.

Mr Ward mentioned the drainage and soil tests at Tresco, and Citrus preservation work in conjunction with the C.S.I.R. Information gained from this work enabled growers to handle and store their fruit with the minimum loss through fungus troubles.

Valuable work was being done with Citrus bud selection, and stocks for Citrus trees. Citrus manuring experiments were in progress. Extensive work was being done with regard to control of the Citrus Red Scale.

ORANGE EXPORT.

Satisfactory reports as to the quality of South Australian Oranges exported to U.K. have been received by Mr. N. H. Underwood, secretary of the Murray Citrus Growers' Co-op. Association. Fruit shipped by the s.s. "Barrabool" on July 11 was appreciated by the trade.

AUSTRALIAN ORANGES AND GRAPEFRUIT.

LONDON, August 21.—Navel Oranges ex "City of Tokio" were in variable, though mostly sound; cases too tightly packed, the boards not allowing sufficient ventilation. Prices realised ranged from 12/- to 14/- per case.

An experimental shipment of 63 cases of New South Wales Grapefruit was considered very promising, and much superior to previous smaller trial shipments.

SHIP ONLY CHOICE ORANGES!

When addressing a meeting of fruitgrowers at Waikerie, South Australia, during August, Mr. McCann, South Australian Trade Commissioner, insisted on the best Oranges being shipped. He praised the quality and color of the South Australian Oranges, and said that they were equal to and better than any in the world if properly graded.

ORGANISATION IN CALIFORNIA.

The California Citrus Growers' Exchange, with an annual turnover of above £20,000,000, is the model fruitgrowers' co-operative enterprise of the world.

This Exchange works in closest harmony with distributors—wholesale and retail. On this their success is built.

Does this suggest anything to Australia?

Pruning Peach Trees in Mr. Z. Aker's Orchard, at Shepparton, Vic.

EXPORT OF ORANGES.

The N.Z. Government has granted permission for the importation of 50,000 cases of South Australian Oranges during September.

Triangular negotiations are proceeding between Australia, N.Z. and U.S.A. regarding the export of N.S.W. Oranges to New Zealand.

From June 1 to August 28, 70,000 bushels of Oranges were exported abroad from New South Wales: space has been booked for an additional 168,000.

Chinese Patient, on telephone: "Sir, what time you fixee tooth fo' me?"

Dentist: "Two-thirty all right?"

Patient: "Yes, tooth hurty all right, but wha' time you fixee?"

CITRUS PRODUCTION IN VICTORIA.

(Season March 1, 1933, to February 28, 1934.)

Return showing the quantities of Citrus fruits gathered in orchards and gardens growing fruit for sale in the several districts of Victoria during season 1933-34:—

Districts.	Number of Growers.	ORANGES. Navel.	Valencia.	Mediterranean Sweets.	Other Common.	Mandarin.	Seville.	Grape-fruits.	Lemons, Limes, etc.
		Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.
Central . .	562	69	4	—	248	—	2	52	77,491
Nth. Central	8	—	—	—	—	—	—	—	536
Wimmera .	39	436	68	—	116	—	12	—	442
Mallee . . .	1,052	216,159	113,982	7,469	22,745	14,918	3,367	7,400	46,373
Northern .	704	168,595	59,148	7,364	7,868	6,692	13,515	4,405	82,011
Nth. Eastern	73	1,695	238	817	879	11	3	1	1,165
All other .	21	106	27	1	43	1	5	—	528
TOTAL . .	2,459	387,060	173,467	15,651	31,899	21,622	16,904	11,858	208,546

Total 1933-34	2,459	658,461	208,546
Total, 1932-33	2,623	566,398	165,335

Office of the Victorian Govt. Statist,
Melbourne, July 26, 1934.

O. GAWLER,
Government Statist.

Some Aspects of Nitrogenous Fertilisers

(Contributed by the Chilean Nitrate of Soda Agricultural Service, G.P.O., Box 2037L, Sydney.)

It is well known that fruit trees require an abundance of readily available nitrogen to promote growth in the early spring, and to ensure that the maximum setting of fruit is obtained. During the critical period of blossoming and fruit formation the amount of available nitrogen in the soil is generally at its lowest, and, consequently a timely application of a suitable nitrogenous fertiliser will have a marked beneficial effect. This is particularly the case with Citrus fruits, where nitrogen is undoubtedly the main nutrient factor governing production.

One of the oldest and best known forms of nitrogenous fertilisers is Chilean Nitrate of Soda, which, on account of its chemical constitution, has no deleterious effect upon the soil. On the other hand, it has a distinct beneficial effect, as it conserves the calcium carbonate and lime, and thus tends to keep the soil in a non-acid condition. A further beneficial effect arising from the use of Chilean Nitrate of Soda is that it reacts with certain insoluble potash compounds in the soil, and by converting the potash into the form of a soluble nitrate, renders it available for the nutrition of the plant.

It is an established scientific fact that all plants absorb the great bulk of their nitrogen in the form of soluble nitrates. In this connection, it is interesting to note that Chilean Nitrate of Soda is completely soluble, ad supplies nitrogen in the exact form required for plant nutrition.

This process of nitrification is a biological one, and depends upon the activity of certain types of soil micro-organisms. The activity of these organisms depends very largely on environmental conditions, and there are a number of factors, such as low temperatures, lack or excess of soil moisture, and acid soil conditions, which greatly retard their activity, and thus suppress the rate at which the nitrogen is made available. Chilean Nitrate of Soda has the decided advantage that it does not undergo any such change, and the nitrogen which it contains is at all times available to the plant.

Chilean Nitrate of Soda is a natural product, and in addition to the other advantages, contains small quantities of iodine, boron and magnesium, and these elements in minute quantities are now known to play a very importat part in the nutrition of many of our crop plants.

Sir John Russell, Director of the Rothamsted Agricultural Experiment Station, in England, and one of the leading authorities on soils and soil fertility, in his bock on "Artificial Fertilisers," states, in reference to the relative fertiliser value of well-known types of nitrogenous fertilisers, that many field experiments had been carried out, and althcugh the results have varied considerably with the soil, the type of crop and the quantity of fertiliser used, the final average of all experiments gave a difference of about 10 per cent. in favor of nitrate of soda.

Classified Advertisements

INTERNATIONAL HARVESTER ENGINE.—1½ h.p., in good order, suitable for spray pump, etc. Price £10/10/-. George F. Hill, Spring Park Orchard, Warragul.

GOLDEN DELICIOUS CUTTINGS for sale for reworking out of date Apple Trees. 12/6 per 100, £5 per 1,000. J. A. Gaasch, Harcourt, Vic.

APPLE TREES — THEIR NITROGEN SUPPLY.

(Continued from page 410, August issue.)

At Donnybrook, on the average, 35 inches of rain fall from May to October inclusive, so that the winter is a period of cold, wet weather, which is unfavorable for bacterial development, and when losses of available nitrogen by drainage may be considerable if additional supplies exist in the soil. This minimum seemed to be the characteristic content of the virgin forest soil throughout the year, and it was characteristic of both Apple orchards during the months May to September, in the absence of fertiliser applications.

It is suggested that, for optimum conditions of tree growth, the soil processes, supplemented by fertilisers if necessary, should maintain an available nitrogen content equivalent to at least 150 pounds of sulphate of ammonia per acre.

Summary.

Let us now review the course of the nitrogen variations throughout the season, in the two soil types of the Apple orchard:

First, in the old orchard: In the peak month of January, there was present the equivalent of 756 pounds of sulphate of ammonia in 1933, and 602 pounds in 1934. This is about double a liberal fertiliser dressing, and represents a very high level of fertility. The supplies fell to about 300 pounds for the months of March and April. Normally, the fall would continue with the advent of the excessive winter rains, and the more or less constant minimum of between 50 and 100 pounds per acre would be reached between May and July. The application of two cwts. of sulphate of ammonia in late April, arrested the fall in this case, and the minimum was not

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reached until July. Nitrogen accumulation, showing that production was exceeding the withdrawals by the trees, began in October, when a level of 150 pounds of sulphate of ammonia was recorded. Following the October sampling, 336 pounds of sulphate of ammonia were applied, and the soil content during subsequent samplings showed a super-abundance of from 500 to 600 pounds per acre.

Second: The picture in the young orchard was very similar, except that the high levels were not attained and the figures were not complicated by fertiliser applications. During the months October to April, inclusive, the soils contained the equivalent of from 128 to 181 pounds of sulphate of ammonia; during the winter months the range was from 53 to 106 pounds, the usual minimum range for the soil. Throughout the growing season, there appeared an adequate supply of available nitrogen in the soil.

The lessons to be learnt from this study are:—

First: A good soil has remarkable powers of forming available nitrogen for the crop. As a matter of plain economics, these powers must be exploited to the utmost by the use of cover crops, including a legume, and by proper cultivation.

Second: The soil processes are still sluggish in August and September, and a dressing of sulphate of ammonia, somewhat prior to blossoming, would supplement the soil agencies at that period.

Third: Autumn applications of sulphate of ammonia are probably superfluous, and, in any case, will probably be lost by being washed out by the early winter rains.

The annual conference of the Western Australian Fruitgrowers' Association will be held at Perth on September 12

Western Australia favors the dump case for the export of Apples.

The Western Australian Frutgrowers' Association recommends the Apple Sales Board to conduct a publicity campaign to increase the consumption of fruit.

Victorian Fruit Marketing Association

At the monthly meeting of the executive of the V.F.M.A., on August 31, Mr. J. B. Mills presiding, there were also present Messrs. Hutchinson, Barker, Carne, Parnham, Bailey, Mellor, Cave, Webb, Douglas, Eagle, Jost, Tully, Thiele, Ward, Meeking and Boardman.

It was decided to send a letter of sympathy to Mr. Harrison in his illness.

Mr. Coltman (solicitor) stated that "automatic" membership in the V.F.M.A. was not possible legally: other points were discussed, and it was decided to send the amended constitution to every executive member, and if a majority approve, a copy to go to every member recommending adoption.

Messrs. Mills, Tully and Bailey were appointed to confer with the Department of Agriculture re grant for fruitgrowers' relief: decided to recommend distribution on a flat rate per case (5d. per bushel).

Regarding arsenate of lead, it was decided to request the Department of Agriculture to conduct tests as to the necessary fineness of particles.

Mr. Bailey reported re tests last season with the 9-inch dump and the Canadian case for export: results were slightly in favor of the latter.

The matter of compensation to growers in the reworking of fruit trees was referred to the Australian Apple and Pear Export Council, as were also items re trade with Canada, France and Belgium, and Apples in non-refrigerated space.

Other items dealt with included Plums for export, Harcourt and Pakenham field days, remission of sales tax on equipment for primary producers, bounty on fertilisers, "Victoria Mark" Fruit Co. It was decided to refer to the Fruit Exporters' Handling Committee the matter of protection to growers in respect of payment by agents of moneys remitted from overseas.

Growers should get into touch with
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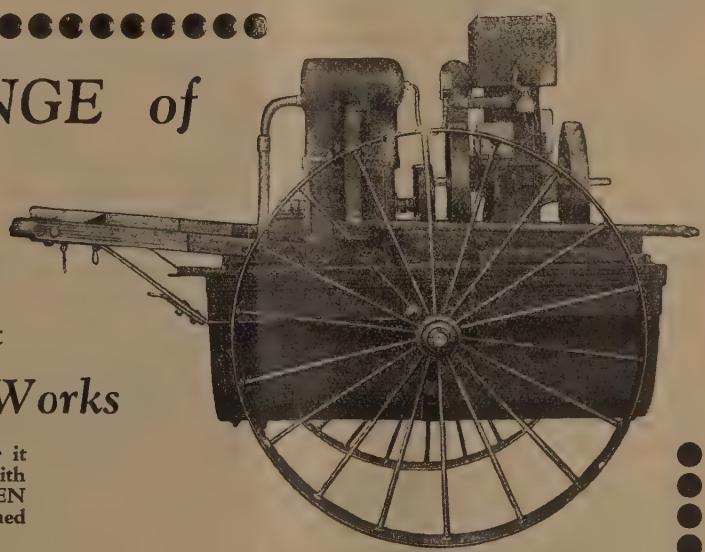

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New South Wales News and Notes

AMONG N.S.W. FRUITGROWERS.

A VISIT among some of the producing centres around Sydney was recently enjoyed by a representative of the "Fruit World."

In the Hawkesbury River district it was noted that the recent floods had played up with the vegetable gardens. However, large quantities of Peas and Beans are successfully grown, and these are finding their way not only to the Sydney market, but to Melbourne as well.

In the Kurrajong and Grose Vale districts, increasing attention is being paid to the sending of vegetables to the Melbourne market. The produce is conveyed by motor trucks to the interstate vessels for shipment south. In many instances it has been found of value to send the produce in refrigerated chambers.

An active worker on behalf of citrus growers and producers generally is Mr. F. B. Mackenzie a member of the Board of the New South Wales Fruitgrowers' Federation. It will be remembered that Mr. Mackenzie was the mover of a resolution at the recent conference of the N.S.W. Fruitgrowers' Federation in favor of a committee of citrus growers being formed to enquire into the better marketing of citrus fruits generally—a survey of the crops, the absorptive power of the local and interstate markets, and generally to secure an adequate survey of the fruit marketing situation. Mr. Mackenzie has a 12-acre citrus block with an additional six acres near by. The main varieties grown are Valencia and Navel Oranges, together with Lemons and Mandarins. The trees are kept clean by fumigation, using calcium briquettes, and it has been noted that white oil is very good for keeping down brown scale.

Amongst other activities, Mr. Mackenzie is growing Peas and Beans for the local and interstate trade, and he has assisted local growers in the better distribution of their produce.

Mr. Mackenzie is a capable speaker at conferences, and his remarks carry conviction. He is of the type possessing a strong personality and is highly esteemed in his own district and among growers generally.

* * *

Considerable quantities of citrus fruits are grown in the Kurrajong district. Among the Orange varieties Joppa is largely grown. There is a live fruitgrowers' Association in existence. The question was raised in conversation with growers as to the wisdom of continuing the trade in citrus fruits with chain stores as the prices paid to growers were deemed to be too low.

* * *

On passing through the Castle Hill and Pennant Hill districts, it was noted that hundreds of acres of Mandarins had gone out of cultivation.

In some instances it was observed that the orchards had been either grubbed out or let go, others were being reworked. The main variety of Mandarin was the Emperor, there being also a limited number of Thorneys grown. The latter seemed to sell better in Sydney than in Melbourne. A valuable new strain bearing Mr. Fagan's name has been developed.

Mr. Reg. Roughley has a 36-acre citrus grove of Mandarins, mainly the Emperor variety. The orchard was well cultivated and showed every sign of careful attention. For pest control, spraying is favored instead of fumigation.

Mr. C. A. Holswich has a large citrus grove at Dural, where Mandarins and Oranges are specialised. An overhead spray irrigation system has been installed throughout; substantial crops of high quality are produced every year.

Mr. Holswich has given much attention, in conjunction with Mr. Whittet, Government Agrostologist, to experiments for pasture improvement. It was a pleasure to notice the garden surrounding the home. Here many choice shrubs were noted growing: Ceratopetalum (the Christmas bush), Ceanothus, Lasiandras, Habrothamnus, Lantanas, in fact, over one hundred different varieties of shrubs are here grown.

Mr. Holswich was recently elected to the Board of the N.S.W. Fruitgrowers' Federation.

We met Mr. A. Ramm, and noted the skilled attention given to the production of high quality fruit. He is emphatic as to the value of fumigation for controlling pests of citrus trees. Mr. Ramm produces substantial quantities of Mandarins, and these have found a ready outlet on the Melbourne market. The Orange varieties include Navels, Valencias, Joppa and White Siletta. For manuring, Mr. Ramm uses potash, bonedust and super. and believes in ploughing this into the soil in the month of February, and also again in the spring. For pruning he likes to thin out the centres of citrus trees at least every second year. Mr. Ramm states he is firmly convinced that better organisation is possible among citrus growers in New South Wales, and expressed interest in the idea of an organisation of growers and traders to improve marketing.

Messrs. J. Hutchinson & Son have a well-kept orchard of 30 acres, producing Valencia, Navel and Common Oranges, also Lemons and Mandarins. They are firm believers in green manuring, and grow tares and wheat for this purpose. Barley has also been used, but once sown this is difficult to get rid of. The best green manure of all, under local conditions, is the New Zealand Blue Lupin, but one difficulty was its slowness to germinate. Where irrigation is available, the Tick Bean is recommended. The green manure crops are sown and manured in the autumn.

The manurial programme is varied. When bone dust is used in autumn, P.B. No. 2 complete citrus manure is applied in the spring. Next year the programme is reversed in applying the complete manure in the autumn and bone dust in the spring.

For several years past Messrs. Hutchinson & Sons have been regular exporters of Oranges, and the prices received have been satisfactory. This year they sent over 1,000 cases of Commons, Parramattas, Silettas, also Navels and Valencias.

Their total crop this year is around 6,000 cases. Their packing shed was noted to be well laid out and complete with an up-to-date grader.

Mr. F. A. Nicolson has a well conducted citrus grove on the hillside near by. Several years ago, Mr. Nicolson was a prominent figure at local and interstate fruit conferences.

On his 20-acre orchard we met Mr. F. W. Nicolson, who is the son of Mr. F. A. Nicolson. In addition to growing 15 acres of citrus, Mr. Nicolson has three acres of Peaches in which the Watts Champion Peach is featured. Other fruits include the Wilson and Santa Rosa Plums, also Nectarines.

Among the Oranges were noted Valencias, Navels and the Patterson River Seedlings.

Mr. Nicolson has been giving attention to the growing of Potatoes and Peas. Greenfeast is the variety of Pea which yields consistent crops. Foster's Early Gen, however, if escaping the frost, yields phenomenally. In one season three pecks of seed gave a harvest of 128 bushels of Peas.

Mr. A. J. Nicolson has fourteen acres under fruit, principally citrus, while

about two acres are devoted to Passionfruit. Citrus fruits include Navel, Valencia and Siletta Oranges, Emperor Mandarins and Eureka Lemons.

Mr. Nicolson doubts the value of the use of too much in the way of quick acting sulphate of ammonia because of its tendency to soften the fruit.

* * *

Mr. L. C. Barwick, at Maroota, via Windsor, has a ten acre orchard devoted to Mandarins, Oranges and Lemons. He finds that the Thompson Navel, if given proper attention, yields valuable early crops. Mr. Barwick is active in the organising of growers. He spoke appreciatively of the services of Mr. R. T. Wood, of Pitt Town, who was delegate to the recent Fruitgrowers' Convention, and who has rendered much service to the benefit of growers.

Murrumbidgee Irrigation Areas.

It was a great pleasure to see the developments which have taken place on the Murrumbidgee Irrigation Area. The improvements during the last ten years have been amazing. Leeton and Griffith are now busy towns with well laidout streets and bright attractive buildings. At Leeton it was pleasant to note the civic pride. Recently the cricket ground, also reserves and garden plantations were beautified by voluntary labor.

Mr. J. H. Gordon, of Leeton, has a 20 acre orchard on which Washington Navels and Valencias are featured. He uses a tractor for orchard cultivation. For green manure tares and tick beans are used. While ample water is available for irrigation, Mr. Gordon believes in using only a minimum quantity, in fact, only giving the trees a drink when necessary. Pruning is attended to after the main crop has been picked. Particular attention is paid to keeping the lower branches off the ground so as to keep the fruit and leaves free from any fungus infection. For pest control, fumigation is featured.

Mr. J. Hetherington, Leeton, is a prominent grower, and is highly esteemed. He represents the Leeton area on the Board of the N.S.W. Fruitgrowers' Federation. The orchard was noted to be in good heart, and is showing every evidence of careful attention.

Mr. J. E. Ward, of Yoogali, near Griffith, has a property of 120 acres, 65 acres are now planted to citrus trees and an additional 30 acres is being planted this spring, and the balance the following spring. It was a pleasure to be escorted over this exceedingly well kept property. The principal varieties are Washington Navels and Late Valencias.

The trees have been worked from selected buds. The soil is heavily dressed with sheep manure. At the time of our visit the trees were heavily laden, some bearing sixteen and others twenty bushels of choice Oranges. The fruit is marketed under the well known "Magnifica" brand.

Mr. J. E. Ward on his 100-acre Citrus Grove, at Yoogali, near Griffith, N.S.W.

The packing house is large and is complete with a Lightning Fruit Grader which has a capacity of 2,000 cases per day. This orchard is self-contained with regard to its cultural and packing needs. The plant includes a complete fumigation outfit.

Mr. Ward has taken an active part in the organisation of the growers in his district. In conversation, he expressed disapproval of compulsory organisation or of Government interference. Mr. Ward represents the Griffith district on the Board of the N.S.W. Fruitgrowers' Federation.

Despite complaints from some quarters as to low prices for Orange, Mr. Ward believes there has never been a glut of high quality fruit, and urges the importance of growers maintaining high standards, thus giving the public the choice quality for which there is a very large demand. Fruit from this orchard is marketed principally in Sydney and Queensland.

Enquiries subsequently in the market revealed that Mr. Ward's brand of citrus sells at a premium.

NEW SOUTH WALES.

Batlow Pruning Competition.

The Batlow Pruning Competition was won by Mr. Hector Keenan, with 600½ points, and Messrs. E. M. Herring and F. Vines tied for second place with 595½ points.

The judges were Messrs. E. C. Whittaker (fruit instructor), H. H. Robinson (a local grower), and W. W. Cooke (fruit instructor).

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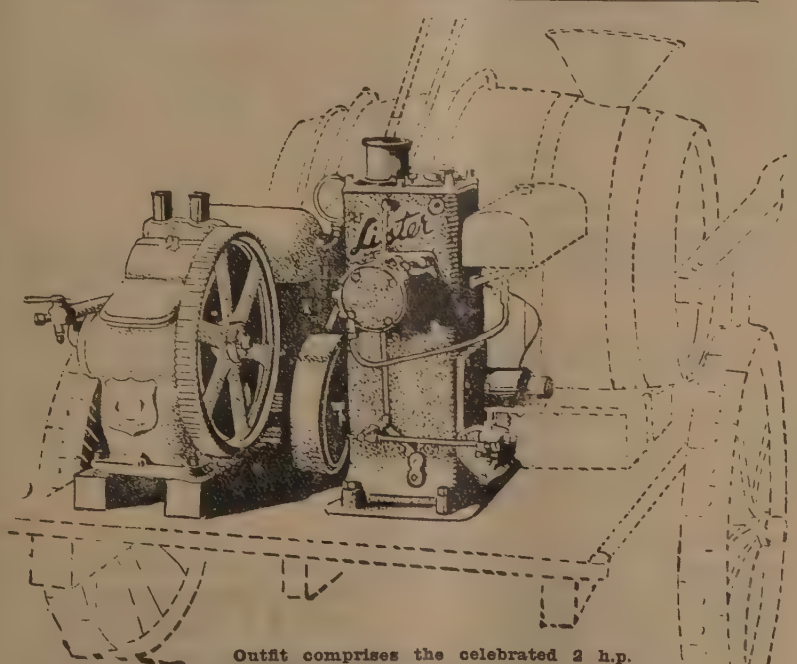

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APPLES FOR NEW SOUTH WALES.

Grade Requirements.

According to advice received by the Victorian Director of Agriculture (Mr. H. A. Mullett), several consignments of Apples recently forwarded to New South Wales failed to comply with the regulations in force in that State. In some instances the cases were not branded with the prescribed markings, such as grade, and size or number. In one case the grade was below that indicated by the marking.

Mr. Mullett said that he had been asked to warn growers of the requirements of the regulations. He had been informed that arrangements were being made for a further inspection at an early date, and that it might be necessary to take proceedings in a number of cases.

Growers not familiar with the grading regulations should write to the Superintendent of Horticulture (Mr. J. M. Ward), Department of Agriculture, Flinders-street, Melbourne, for a copy of the requirements.

Fruit Fly on M.I.A.

In order to eradicate fruit-fly on the Murrumbidgee Irrigation Area, the regulations are to be enforced rigidly and any grower, whether having a number of fruit trees or one fruit tree, must comply with the regulations or proceedings will be launched.

All fallen fruit must be collected at least once in every three days, and buried in a pit covered to ensure the destruction of all fruit fly. The fruit must be covered with at least two feet of closely compacted soil.

All fruit (other than Valencia Oranges) in the Mirrool area must be removed from the trees before September 15. The proclamation specifies Oranges other than Valencias, as Citrons, Loquats, Passionfruit, Cumquats, Lemons, Grapefruit, Limes, and Mandarins.

N.S.W. BROADCAST TALKS.

On September 7, Mr. W. A. Birmingham, Asst. Biologist, N.S.W. Dept. of Agriculture, will give a broadcast talk on black spot of Apples and Pears, from 8 to 8.15 p.m., over station 2UE.

FRENCH CRABS SOLD AS GRANNY SMITHS.

A Barrowman's Ruse.

The scarcity of N.S.W. Granny Smith Apples this year proved a boon to a number of Sydney barrowmen in the city streets. Truck loads of French Crabs labelled "Granny Smiths" found a ready sale to an unsuspecting public who did not know the difference between the two varieties. It was a case of deliberate deception as the barrowmen knew perfectly well that it was a French Crab they were selling, for the market was glutted with them, and Granny Smiths were at a prohibitive price for barrowmen. It must have been very profitable for them while the demand lasted, for French Crabs were obtainable at low prices at the City Fruit Markets during the past two months.

Mr. F. H. Barrett has donated a challenge cup to the Leeton Agricultural Show Society to be won by any group of citrus growers who display a pyramid of citrus fruits limited to the following varieties:—Mandarins, Lemons, Grape Fruit, Washington Navels, late Valencias, Med. Sweets. The cup will remain the property of the Society until it has been won three years in succession or four times in all by any group of settlers.

Young.—The Young Show, which was opened on August 28, was the best show for years. The President, Mr. Chas. Crichton, and the Secretary, Mr. T. A. Tester, have given very valuable service in the organising and running of the show. The exhibits include Manufacturers' Fair, School Work, Flowers, Needlework, Arts and Crafts, Preserves, Poultry and Stock.

M.I.A.

Griffith.—The schedule of the Griffith Agricultural Show, to be held on October 16 and 17, contains comprehensive prize lists for citrus fruit, including Oranges wrapped and packed for export, Mandarins, Grapefruit, Lemons, etc., also Granny Smith Apples. Other items include dried fruits, wines, jams and preserves, also a full range of live stock and arena events. The Secretary is Mr. J. C. Scrivener.

UNCOMMON FRUITS IN AUSTRALIA.

The fruitgrower of Australia has the choice of many fruits to grow, owing to the varying changes of soil and climate, yet it is only in rare cases that one meets a grower that does not specialise in the more popular fruits. Occasionally, a grower is to be found who has uncommon fruits, but it remains for nurserymen of the calibre of L. P. Rosen & Sons, of Carlingford, N.S.W., to grow unique fruits from foreign lands, under Australian conditions. Among the curious fruits grown at this nursery is the White Sapota, a native of Mexico. The fruit of this evergreen tree is about the size and color of a French Crab Apple, with creamy flesh of a delicate flavor, which is said to be good for digestive troubles. The fruit will not carry long distances, but could be marketed with success locally.

The Chinese Jujube, another stranger growing at this nursery, is a hardy deciduous tree growing 10 to 15 feet high, has fruit of a rich dark brown color, about the size of a Plum. The flavor is crisp, sweet and dry, and is especially good for crystallising. The Feijoas, or Pineapple Gauva, is an attractive evergreen growing 10 to 15 feet high, of fine ornamental appearance, and the fruit is particularly good for jam or jellies. Mexican Avocado, Brazilian Cherry, Chinese Raisin, Monstera Deliciosa (a tropical climber with large conical shaped fruit), Tree Tomato, Papaws, Mangoes, Cumquats, Limequats, and other uncommon fruits grow side by side with all the well-known fruits one usually meets with in orchard or garden.

The catalogue of L. P. Rosen & Sons, which describes all of the fruits grown at the Fernhill Nurseries, Carlingford, is available on application.

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APPLE AND CITRUS PACKING CHARTS ARE AVAILABLE FREE ON APPLICATION. GERRARD SERVICE

The Canned Fruits Industry

Last Season's Stocks Cleared -:::- Large Orders for 1935 Canned Fruit

Conference of Growers and Sugar Concession Committee Suggested.

A REMARKABLE CHANGE has taken place in relation to the canned fruits industry. Last year canners would accept only half the growers' crops at the inadequate price of £7 per ton.

To day all stocks have been cleared, prices for canned fruits have risen, factories have over sold and are unable to offer any more canned fruit in Great Britain for the next six months.

What is the position of the grower with regard to the coming season's crop? Already growers and canners are thinking in terms of £12 per ton, and of canners accepting all the fruit that will be offering.

Last season, in what appeared to be a national crisis in the canned fruits industry, the Fruit Industry Sugar Concession Committee, when fixing the minimum price for canning fruits, would not take the responsibility of giving the grower a price which was admitted to be only a fraction of his cost of production. They therefore called the leading fruitgrowers of the State into conference and placed before them the responsibility of the fixing of the price. The growers recognising the serious position, made a great sacrifice in selling half their crop at half the cost of production. Growers were given to understand that if the factories were enabled to clear all their stock growers would be recompensed the following season.

With canned fruit stocks all cleared—the factories having completely sold out—growers are looking forward to again being called into conference with the Fruit Industry Sugar Concession Committee, with the object of fixing the minimum price on a basis of the 1932-33 figure, namely, £12 per ton. This would enable growers to recoup the heavy losses incurred in their sacrifice of last year.

It would be to the mutual advantage of both canners and growers that growers should receive sufficient money for their fruit to enable them to properly cultivate and manure their orchards, and thus keep up the asset value of orchards and quality of fruit.

* * *

It is interesting to note that owing to various factors, Californian fresh fruit prices this year have risen from 50 per cent. to 100 per cent.

* * *

It would appear that the early fixing of a definite price at full value is the best way to handle the present situation, for the reason that all factories can operate on the one figure.

The canned fruit situation has a distinct and positive bearing on the marketing of all fruits in the fresh fruit market, and a low price fixed in, say, Pears or Apricots, brings other fresh fruits, including even Pineapples and Bananas, down to a lower level on the market.

The fixing of a price by the Fruit Industry Sugar Concession Committee operates as the price barometer of all fruit, whether for canning or the open market throughout Australia.

Certain it is that growers of canning fruits in Australia are looking forward to substantially increased prices this season, and the calling of a conference of leading growers by the Fruit Industry Concession Committee to discuss this matter would be esteemed.

A pertinent point to be borne in mind is that, apart from a bonus that might be paid by an individual factory, the minimum price fixed by the Sugar Concession Committee is also the maximum price received by the grower.

SHEPPARTON CANNERY.

Extensions to Buildings and Plant—New Cool Store.

EXTENSIONS AND IMPROVEMENTS involving an expenditure of approximately £26,000 will be made at the Shepparton Cannery before December in readiness for the new season's operations.

The company has entered into an agreement, with Messrs. S. J. Perry & Co., of Melbourne, to lease them the cool store, which was built in 1932, for several years. Messrs. Perry & Co. will

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use these premises to store their export Apples and Pears from the northern district.

The new cool store will have a capacity of 40,000 cases, and when a 40-ton compressor and motor are installed in the power house, the total cool storage capacity will be about 130,000, one of the largest in Victoria.

The steam capacity will be increased 100 per cent. by the erection of a new water tube with a heating surface of 5,540 square feet. New electrical equipment will be installed, and the power in the can-shop will be changed from D.C. to A.C. current. "Staybrite" stainless steel basins will replace the enamel canning basins which are used at present.

The processing of Peaches will be facilitated by the installation of a peeling machine and scalder, washer, blancher, grader and slicing machine.

CANNED FRUIT EXPORTS.

Canned fruit exported from Australia this season is valued at £949,212, an increase of £220,000 on previous season's total.

Leeton Cannery.—Preparations are in full swing at the Leeton Cannery for the expected rush next season.

A start has been made with the foundations of the new cold storage building, and other additions will be commenced shortly. Messrs. R. Werner & Co. Pty. Ltd., of Melbourne, were the successful tenderers for the cold storage plant.

The Commission has ordered a can-making machine which will turn out 300 tins a minute. At present only 270 tins can be turned out a minute with both machines working at top pressure.

The factory manager, Mr. J. Brady, expects a record output in the coming season.

CANNED FRUIT IN CANADA.

Heavily Increased Demand.

The increased demand in Canada for Australian canned fruit was the subject of comment recently by Mr. W. J. Adams, secretary of the Australian Canned Fruit Export Control Board, who said that the demand for Australian canned fruit in Canada and England was greater than Australia could supply.

CALIFORNIA'S CANNING PEACHES.

Crop 351,000 Tons, of Which 210,000 Tons Will be Canned. 1934 Pack to be 9,250,000 Cases.

The California Canning Peach Growers' Association advises, under date July 11, that the 1934 Peach Agreement is in operation. The 1934 pack of Cling Peaches will be 210,000 tons, or 9,250,000 cases.

The probable tonnage available will be 351,000 tons. In other words, the surplus fruit based on these figures will be 150,000 tons.

FUNGUS DISEASE CONTROL.

Harcourt and Strathfieldsaye.—Following a lecture delivered to Harcourt fruitgrowers on the control of Apple and Pear diseases, the fruitgrowers' association at Strathfieldsaye requested the Director of Agriculture for the services of Mr. S. Fish, M.Agr.Sc., Plant Pathologist, for a similar lecture. The meeting was held in the Strathfieldsaye Hall on July 30, and was largely attended.

Mr. Fish gave an extremely interesting and valuable address, and was cordially thanked.

FRUIT FOR INDIA.

"Large Market Not Available."

AT the July meeting of the Executive of the South Australian Fruit Marketing Association, Mr. F. F. Redden gave an interesting report on his recent visit to India; he stated that he doubted very much if any really large market was available, as the big bulk of the population did not have the purchasing power. He also stated there was very serious competition from Japan. Japanese Apples being packed in rice husks, the cases being pre-cooled, and then shipped as ordinary cargo, and they turned out most satisfactorily.

INTEREST ON COOL STORES.

A deputation from the Orchardists and Fruit Cool Stores' Association of Victoria, introduced by Col. Knox, M.L.A., waited on the Director of Finance, Mr. Pitt, on August 29, and asked that a reduction be made in interest rates on loans to Co-operative Cool Stores.

Mr. Pitt stated that consideration would be given to any store that desired an extension of time, and if money could be obtained by any store at a lower rate of interest, elsewhere, the Government would facilitate the repayment in full of any loan.

FIGHTING THE BORER BEETLE.

Mr. J. McCarthy, Senior Assistant Entomologist, has returned to Sydney with several boxes of Fijian beetles which will be used to wage war on the borer beetles that are damaging the Banana plantations in N.S.W. It is said of these Fijian beetles that their only pleasure in life is the gorging of themselves with borer beetles. Banana growers will watch the efforts of the little foreigners with considerable interest.

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Any Instructions referring to this Order must be given in writing.

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THE . . .
Market Grower

Official Organ of the Market Gardeners and Fruitgrowers Society of Victoria.
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Committee: G. Ryan, C. James, C. Baker, L. Lawrence, J. Hawkes, J. Stocks.
Arbitration Committee: H. V Barnett, W. Simmonds, E. A. Le Page, H. Besant, W. D. Barnett. Secretary: Cr. C. C. A. George, Highett Road, Moorabbin, Vic.

Market Garden Notes
-*-*-*-
Tomato Culture

Market Garden Notes . . .

Grow Crops Suited to the Soil

Heavy Soil for Cauliflowers: Light Soil for Carrots.

THE BEST CROP to grow in any land is the crop that the particular land is most suited to: for instance, it is waste of time and money to try and grow Cauliflowers on light sand.

The Cauliflowers naturally thrives best on a fairly heavy loam and under these conditions resist the pests that attack it during growth, much more easily than in the lighter soils; also in the light sand there is also the danger of dust rising and settling on the heart, and thus spoiling its sale.

The opposite effect applies to Carrots, as this crop likes to be able to send its root well down into the moist soil, and if grown on the heavy soil, the roots are apt to become misshapen, and not to come to the best maturity.

With these two examples it will be seen that if a man persists in trying to grow crops in land for which they are not suited, he will only produce vegetables which have taken a great deal of tinkering with, and, not best of their kind when taken for sale. Thus it will be seen that one gardener will succeed with Lettuce, another with Onions, another with Sprouts, or Cabbage; but, if any of these men tried to change over to what the other man was succeeding with he would probably fail.

Of course, I do not mean to imply that a grower is limited to one particular sort of crop, for there are several different sorts of vegetables that favor either kind of soil, but, to gain the best success, a grower must study and specialise in a few particular varieties, and make these his main crops for growing.

H. V. BARNETT.

Moorabbin, Vic.

NEW VARIETIES OF LETTUCE.

Dr. I. C. Jaggar, of the United States Department of Agriculture, has done excellent work in recent years in the breeding and selection of improved strains of Wonderful or New York Lettuce.

The improved strains have been placed under the observation of Mr. N. S. Shirlow, Assistant Plant Breeder at Hawkesbury College, N.S.W. These strains, namely, Imperial, have already been listed by seedsmen in New South Wales.

Imperial C, D and F show a resistance to mildew, and also to frost, Wonderful being very susceptible to the latter.

Another new variety, the Yarramundi Summer, is likely to prove a good summer variety. It is a cross between Wonderful and Iceberg, and carries the light green color and good hearting qualities in summer of the Iceberg, without the red coloration on the edges of the leaves.

No seed is yet ready for distribution, but it is now being increased as quickly as possible for that purpose, and for commercial field trial.

REDUCED WATER RATES DESIRED.

Conference to be Held on September 4.

In order to prepare a case for the much needed reduction of water rates, a conference has been called to meet at the rooms of the Flower Growers' Association, Burwood, on Tuesday, September 4, at 8 p.m. The convenor is Mr. F. E. Hunt, Secretary of the Victorian Flower Growers' Association. Invitations have been sent to the Market Gardeners and Fruit Growers' Society, the Nurserymen and Seedsmen's Association, Southern Fruitgrowers' Association, United Berry Growers' Association, the Victorian Fruit Marketing Association, and others likely to be interested.

PONDEROSA TOMATOES FAILING TO SET FRUIT.

Question: "What is the reason of Ponderosa Tomatoes not fruiting, though flowering freely? Other varieties in the same plot all fruiting."

Reply by Mr. Geo. Quinn, S. Aust. Dept. of Agriculture: "Without personal examination of the plants and blossoms and the surroundings, one is at a loss to determine the cause of the non-setting of the fruits. Tomato plants often refuse to crop if grown vigorously and especially when liberally irrigated after being manured with organic manures. Often, by withholding water and allowing the plants to steady down, the flowers adhere and set fruits. Flowers, on the other hand, may be 'blind,' i.e., the stamens and pistils being displaced by

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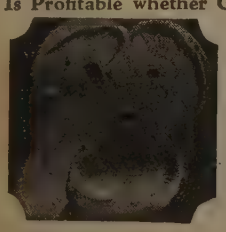
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negative growths. If the stamens and pistils in the flowers appear normal, try rubbing pollen from the flowers of some other variety over the pistils of the Ponderosa plants. A small soft brush or rabbit's tail may be used to collect and distribute the pollen grains."

A New Apple

"Warrior" (a Red Statesman): Superior to Yates.

AT THE RECENT fruit and flower show at Mitcham, Vic., the "Fruit World" representative was pleased to be shown around the exhibits by Mr. Walter Mock, J.P., a well-known grower and one who has done much for the fruit industry.

Mr. Mock pointed out some specimens of the new variety "Warrior" which really might be termed a Red Statesman.

"Warrior" is a sport from Statesman: it keeps its flavor splendidly in cool store. It comes in as a late Apple and has points in its favor making it superior to Yates. For one thing, it sizes up well, does not need to be "nursed" like the Yates variety.

That there is a good future for "Warrior" is the positive opinion of Mr. Mock.

. . .

By the way, it is of interest to recall that "Statesman" was previously known as Chandler's seedling, it having originated as a seedling at the orchard of Mr. Chandler, Senr., at Bayswater.

Let me be a little kinder,
Let me be a little blinder,
To the faults of those about me!
Let me praise a little more,
Let me be, when I am weary,
Just a little bit more cheery—
Let me serve a little better,
That which I am striving for.
Let me be a little braver
When temptation bids me waver;
Let me strive a little harder
To be all that I should be;
Let me be a little meeker
With a brother who is weaker;
Let me think more of my neighbor,
And a little less of me.

—Mrs. R.L.S.

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Tomato Culture

Effects of Fertilizers and Rotation of Earliness and Total Yields of Tomatoes.

SOME VERY INTERESTING STUDIES in Tomato culture have recently been conducted in U.S.A. The results are included in a bulletin recently to hand from the N.Y. Experiment Agricultural Station, Geneva, N.Y. This contains a report of six years' results of an experiment comparing 18 ferilizer combinations for Tomatoes in a single crop system and in a four-year rotation. Each treatment was replicated three times, and results were measured by the differences in field yields of Tomatoes. The effect of each treatment was determined by comparing its yield with the yield of check plots on each side. Crop response to each treatment was measured in its effect on early, mid-season, and total yields.

Phosphorus was of greatest importance in increasing both the early and total yields of Tomatoes. Nitrogen was second in importance and potash was third. The best results were obtained using a complete fertilizer high in phosphorus. The Tomatoes responded profitably to liberal applications of fertilizer.

Rotation was very important in maintaining Tomato yields. Moderately high analysis fertilizer compared favorably with a very concentrated form. Manure proved an excellent fertilizer for Tomatoes. The best results, especially for early yields, were obtained by supplementing the manure with commercial fertilizer high in phosphorus.

Seasonal conditions and time of transplanting proved to be important factors in total yields and early yields, respectively.

Conclusions and Recommendations.

Yields of Tomatoes varied greatly in the different years of this experiment. These seasonal differences were due primarily to variations in temperature, rainfall, and frost-free periods. However, a good rotation and the proper use of fertilizers were important factors in maintaining high average yields of Tomatoes.

A rotation for Tomatoes should include a legume crop every four years. Cover crops also should be turned under whenever possible to help maintain the organic matter content of the soil. A good rotation is essential for a permanent system of truck farming or of canning crops production. The following four-year rotation proved very satisfactory, and has maintained the yields of Tomatoes: First year, Tomatoes followed by rye cover crop; second year, snap beans followed by rye cover crop; third year, beets; and fourth year, cannery peas followed by a sweet clover cover crop. A cover crop of rye may also follow the beets the third year, but its use would depend on whether spring or fall ploughing is preferred for the peas. The sweet clover following the peas is turned under the following spring for Tomatoes. This rotation provides a cash crop every year, a legume green manure crop, and two or three cover crops of rye. Sweet corn, cabbage, or many other crops might be substituted for any of the crops in this rotation.

Phosphorus is the principal limiting element in Tomato growing on most soils. Applying readily available phosphorous fertilizer results in a very marked increase in early yields and in total yields of Tomatoes. Nitrogen appears to be second in importance in increasing yields of Tomatoes. A profitable increase in yield may be expected where readily available nitrogen is applied in connection with phosphorus fertilizers. Nitrogen fertilizers applied in reasonable amounts will not retard maturity, but will stimulate the early growth and maturity of the crop. On most soils potash is most likely to be third in importance as a limiting fertilizer element in Tomato pro-

duction. Consequently, the best results from potash fertilizers can only be obtained when nitrogen and phosphorus have been added in sufficient quantities to correct the limiting effect of these elements. Under these circumstances, however, potash may be used profitably on Tomatoes.

A complete fertilizer high in phosphorus gave the best results in this experiment, and is generally recommended. A 4-16-4 formula proved very satisfactory. The results of these fertilizer tests comparing differing amounts of nitrogen, phosphorus, and potassium, gave a fairly definite idea of the best proportion of these three fertilizer elements for Tomatoes on most soils. Under most circumstances a fertilizer well adapted for Tomatoes should contain from 4 to 8 per cent. of readily available nitrogen, 12 to 16 per cent. of readily available phosphorus, and 4 to 8 per cent. of readily available potassium. Fertilizer combinations within these limits would undoubtedly give excellent results with Tomatoes on all the important soils in this State. In general, a 4-16-4 or a 4-12-4 ratio is recommended.

Tomatoes respond profitably to liberal fertilization. At least 1,200 pounds per acre of 4-16-4 or a similar high analysis fertilizer is recommended for market garden Tomatoes. Liberal fertilization has a very marked effect in increasing early yields, which are the most profitable to market gardeners. From 600 to 1,200 pounds per acre of 4-16-4, or a high analysis fertilizer closely approximating this ratio is recommended for Tomatoes for canning factories. Increased yields resulting from the use of fertilizer will lower the cost per ton in growing Tomatoes. A grower with limited funds for fertilizer will probably obtain a larger net return by reducing his acreage, if necessary, and applying an adequate amount of fertilizer per acre.

Early yields of Tomatoes and also total yields are markedly affected by the time of transplanting. In general, the earlier Tomatoes can be transplanted to the field without danger of frosts, the earlier will be the harvest and the larger the total yields.

The limited data available indicate that from the standpoint of equivalent amounts of plant food a moderately high analysis fertilizer is slightly better than a very concentrated form of fertilizer.

However, the use of very concentrated fertilizers results in some saving in freight and handling costs, and this factor should be taken into consideration in determining the value of these very concentrated fertilizers.

Manure is an excellent fertilizer for Tomatoes. It should be well rotted and should be ploughed under at least two weeks before time to set the Tomatoes in the field. Supplementing manure with a complete fertilizer high in phosphorus or with a fertilizer containing readily available phosphorus alone is recommended. This will give additional increases in yields, more particularly in early yields.

VEGETABLE CROPS IN N.S.W.

Gosford and Hunter District Prospects.

PEAS have been extensively planted this season in the Gosford and Wyong districts, according to Mr. A. G. Orman, agricultural instructor of the N.S.W. Department of Agriculture. The growers, he said were at present harvesting payable crops. The variety found most suitable in these localities was known as "The Gem," a fairly early type, producing well filled pods. A system of trellising had been adopted with good results.

Small farmers situated in the early areas were now planting early Beans, stated Mr. Orman. Whilst it was not expected that the area would be as great as last year, an appreciable acreage would be sown. In both the centres mentioned and in adjacent districts there was an inclination for small growers to give attention to other crops in addition to the standard ones. Thus consideration was being given to Cabbage and Carrot cultivation.

Mr. Orman further said that on the Hunter the area sown to Onions this season was materially decreased, compared with last season. This was due to the fact that the previous growing period was unsuitable for the crop, and the prices realised had been unpayable. There appeared to be a decided swing over to Cabbage and Cauliflower culture.

NEW FRENCH BEAN.

A new dwarf French Bean—"Acme"—is being advertised in this issue by Messrs. Law, Somner Pty. Ltd., of Elizabeth-street, Melbourne.

This Bean is stated to be the leading commercial seed Bean of the future, is much earlier than other standard types, gives a prolific yield, and is practically immune from disease. It produces a long, green Bean, fleshy and tender.

Messrs. Law, Somner Pty. Ltd. state that it has been proven that at least 60 per cent. more sowing space can be covered with "Acme" than with equal weight of Canadian Wonder or similar type.

"Whatsoever a Man Soweth."

Centuries ago the Great Teacher said: "Whatsoever a man soweth, that shall be also reap." It is still true. Everywhere, whoever sows discord will reap strife. Hate will bring forth wars. Suspicion will fill the soul with reptiles.

They who sow their home with the kind words of appreciation and love will reap a heaven on earth. He who sows the spirit of a kind neighbor will reap his reward of mutual kindness. He who sows social uplift will get pulled up himself.

The school boy or girl who sows patient study will harvest a trained mind, and the honorable esteem of others.

The woman who plants in her heart the qualities of pure thinking will harvest the reward of respected character.

So many, many thousands of decent and helpful and good thoughts and deeds lie undone all about us. They are but the seed that need planting in the soil of human lives, and the result will be harvested pleasure, gladness, purity and contentment.

Only one thing can grow well in soil at one time. Either weeds or grain will prevail. It is for us to determine what the harvest will be. Let's plant and sow the good.—Dr. J. W. Holland.

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Geeves, H. V., Fruit Exchange.
Jacklyn & Jacklyn.
Robsons Ltd., Fruit Exchange.

Hobart: **TASMANIA.**

Eric Burgess Pty. Ltd., 88 Collins Street, Hobart.
E. R. Cottier Pty. Ltd., Temple Place, Macquarie Street
Jones, H., Co. Ltd., Fruit Exporters.
Peacock, W. D., & Co., Fruit Exporters, and at London

Launceston:

Bender & Co. Pty. Ltd., 100 Elizabeth Street.

Dunedin: **NEW ZEALAND.**

Co-operative Fruitgrowers of Otago Ltd.

GREAT BRITAIN.

Hull:

London and North-Eastern Railway, 7 Bridge-street, Sydney, N.S.W.

London:

Monro, Geo., Ltd., Covent Garden.
Port of London (Capt. A. W. Pearse, 10 Bligh St., Sydney).
Poupart, T. J., Ltd., Covent Garden.
Ridley, Houlding & Co., Covent Garden.

Manchester:

The Port of Manchester Rep., W. J. Wade, 8 Bridge Street, Sydney.

Bremen: **GERMANY.**

Fruchthandel, Gesellschaft.

Hamburg:

Astheimer, P. H., & Son, Fruchthof.
Gustav Bey, Hamburg.
Int. Fruit Import Gesellschaft.
Lutten, J. H., & Sohn, Hamburg.
Stier, Aug., Fruchthof.
Timm & Gerstenkorn.

Fruit Export from Australia and New Zealand

6,681,044 Cases Apples and Pears Shipped in 1934.

IN a comprehensive review of the Australasian fruit export season for 1934, Messrs. H. Jones & Co. Ltd., Hobart, state that the total shipment of Apples and Pears from the Commonwealth to England and the Continent, amounted to 6,206,090 cases Apples and 474,954 cases Pears.

Details are as follow:—

	United Kingdom.		Continent.		Total.	
	Apples.	Pears.	Apples.	Pears.	Apples.	Pears.
*Tasmania	2,483,102	69,289	481,456	7,328	2,964,558	76,617
Victoria	552,504	216,257	152,328	—	704,832	216,257
W. Australia	292,588	29,346	271,701	3,786	564,289	33,132
S. Australia	297,125	28,507	219,933	—	517,058	28,507
N.S.W.	54,515	13,359	4,579	115	59,094	13,474
Queensland	29,102	—	4,595	—	33,697	—
New Zealand	1,121,300	104,765	241,262	2,202	1,362,562	106,967
	4,830,236	461,523	1,375,854	13,431	6,206,090	474,954

*In addition, small quantities to England via Melbourne and Sydney, plus a shipment in non-refrigerated space per s.s. "Aagtekerk."

It is pointed out that under the voluntary export restriction programme, the Tasmanian quota was fixed at 2,750,000 cases Apples and 100,000 cases Pears. When Victoria and N.S.W. were found to be short on their export quotas, Tasmanian export was increased in April on application to the Australian Apple and Pear Export Council.

Continuing, the firm points out the urgent representations made to secure a reduction of freight. One of their directors, Mr. E. Ross, had gone to England: he is enquiring into the subject of transport in all its important phases and would confer with the head offices of the steamship companies.

U.K. FRUIT IMPORTS.

United Kingdom imports in 1933 from Empire countries reached record totals in Grapefruit, Peaches, Apples, Plums, Apricots, Oranges, Grapes, Pineapples, Lemons and Pears.

A report by the Imperial Economic Committee shows that a record quantity of 88.6 per capita of fruit was consumed in 1933. Apples worked out at 24.6 lb. and Oranges at 27 lb.

The sad-looking man entered a restaurant, and a waiter bustled up.

"What will you have, sir? Some cold shoulder?"

"No, thanks, I had that this morning."

"Well, then, some tongue?"

"No, thanks, I'll get that to-night."

Cable Address: DAVIS, MELBOURNE. Code: "ABC," 4th and 5th Editions. Box, G.P.O. 148B.

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WHOLESALE FRUIT SALESMEN
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For Reference: ASK ANYONE

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Manufacturers of "PLANE" Brand Chemical Dusts.

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29-30 Wholesale Fruit Market
WHOLESALE FRUIT MERCHANT & COMMISSION AGENT
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COUNTRY AND INTERSTATE ORDER TRADE SUPPLIED.
CONSIGNMENTS SOLICITED. PROMPT SETTLEMENTS. SHIPPING No. 41.
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Bankers: E. S. and A. Bank William Street, Melbourne.
HIGHEST PRICES and PROMPT RETURNS
SHIPPING NO. 48 "WE STRIVE TO PLEASE"

ROAD-SIDE FRUIT SALES.

Sale of Windfalls During the 1934 Season.

A resident in the Ringwood (Victoria) district in the kindness of his heart, yielded to the solicitations of two unemployed young men and gave them some bags of windfall Apples. Imagine his astonishment later to find these young men having installed themselves as roadside fruit sellers and cadging their supplies from other growers in the district.

This illustrates the necessity for regulation of the roadside fruit selling business.

Owing to the policy of the present N.S.W. Government, to dispose of State enterprises, the Leeton Cannery is to be sold to growers in three years' time.

EUROPEAN CROP PROSPECTS.

Cabled advice from the Canadian Fruit Trade Commissioner in London states, that following the breaking of the drought, prospects of early Apples in the United Kingdom are generally good against very fair last year. Bramleys are reported as very good in all districts as compared with poor last year, while Worcester Permain are good to very good against poor to very fair. Cox Orange are generally good against poor to good, while cider varieties are reported as good in all areas. Prospects for the most important varieties of Pears are generally good, other varieties very fair, and Plums fair to very good.

Apple prospects in France are better than average, a large crop of early varieties of Pears is expected, and late varieties are better than average. In Germany a generally good crop of Apples, both in quality and quantity is anticipated. A medium crop of Apples is expected in Holland, while the crop in Belgium is generally above normal, and a good yield is also expected in Scandinavia.

Trade With Germany.—All imports from Canada must be shipped direct to specified ports and subject on arrival to inspection for San Jose Scale (Aspidiotus perniciosus) and Railroad Worm (Rhagoletis pomonella).

A large part of Canadian shipments to Rotterdam and Antwerp last season were sold in Germany, but now that the order is effective, future shipments must proceed direct, Hamburg and Bremen being the most suitable ports.

The Imperial Fruit Show, 1934.

The Imperial Fruit Show will be held this year at Leicester from November 2 to 10 inclusive.

APPLES.

Exports to Ports in Great Britain and the Continent.

Cases.

Port.	N.S.W.	Vic.	Q'land.	Sth. Aust.	W. Aust.	Tas.	Australia.
Avonmouth	—	—	—	—	—	10,366	10,366
Glasgow	3,991	32,548	—	13,297	37,214	50,494	137,544
Hull	4,384	81,003	—	57,723	10,075	246,740	399,925
Liverpool	2,466	83,475	—	79,942	36,072	504,723	706,678
London	43,674	355,478	29,102	148,117	204,719	1,648,380	2,429,470
Manchester	—	—	—	—	—	22,479	22,479
Southampton	—	—	—	—	1,012	—	1,012
TOTAL	54,515	552,504	29,102	299,079	289,092	2,483,182	3,707,474

Port.	N.S.W.	Vic.	Q'land.	Sth. Aust.	W. Aust.	Tas.	Australia.
Antwerp	30	31	—	—	—	7,689	7,750
Bremen	—	6,186	—	11,647	—	37,190	55,023
Dunkirk	2	18	—	—	—	—	20
Hamburg	4,547	99,751	4,595	175,537	192,004	384,068	860,502
Oslo	—	6	—	—	—	—	6
Rotterdam	—	46,336	—	750	15,346	64,977	127,409
Stockholm	—	—	—	32,004	64,351	—	96,355
TOTAL	4,579	152,328	4,595	219,938	271,701	493,924	1,147,065

PEARS.

Cases.

Port.	N.S.W.	Vic.	Q'land.	Sth. Aust.	W. Aust.	Tas.	Australia.
Glasgow	164	—	—	—	—	—	164
Hull	5,056	—	—	—	—	—	5,056
Liverpool	—	—	—	4,880	—	8,768	13,648
London	8,139	216,257	—	19,978	29,348	61,232	334,954
TOTAL	13,359	216,257	—	24,858	29,348	70,000	353,822

Cases.

Port.	N.S.W.	Vic.	Q'land.	Sth. Aust.	W. Aust.	Tas.	Australia.
Hamburg	115	—	—	—	2,978	6,522	9,615
Stockholm	—	—	—	—	708	—	708
TOTAL	115	—	—	—	3,686	6,522	10,323

APPLE EXPORT TO GERMANY.

"American" Box Preferred, Also Counts Instead of Sizes.

Messrs. Aug. Stier, of Hamburg, write appreciating Australian Apple exports in "American" boxes. Australia should use the universal counts (as is used by other exporting countries) instead of sizes. Growers should be careful to put full weight in packages.

AMERICAN APPLES IN U.K.

A Higher Duty is desired.

The heavy supply of American Apples in England was one of the major contributing causes of the low prices received by Australian growers for their Apples exported to U.K. in 1934.

It is recommended that the duty of 4/6 per cwt., arranged at Ottawa be increased to 7/- per cent.

F. CHILTON

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FRUIT COMMISSION AGENT

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Highest Market Prices — Prompt Returns — Reliable Advice

Registered Address for Telegrams and Cables, "CHILTONS"

References :— Bank of N.S.W., Haymarket, Sydney and Growers throughout Australia

CITY FRUIT MARKETS, SYDNEY

THE BOROUGH MARKET, LONDON.

THE BOROUGH MARKET is one of the oldest in London, and like all ancient institutions of this great city, has had a most interesting history. The Superintendent (Mr. Sydney Bentley) has kindly furnished, at the request of Mr. J. O. Sims, the following information.

The Borough Markets are about three acres in extent, being bounded, roughly, by Southwark Cathedral and Winchester-street on the north, on the south by Stoney-street, and a portion of the Borough High-street, on the east by a portion of Borough High-street, and the west by Stoney-street.

Like many others, the Borough Market has overflowed into neighboring streets and continues to grow, for it is centrally situated near to the great terminus of the Southern Railway at London Bridge.

The Borough Market is stated to be the oldest municipal fruit market in London. The huge volume of business transacted is borne out by the report of the Departmental Committee on London Fruit and Vegetable Markets, stating that the business done at the Borough Markets is larger than most of the other markets in the metropolitan area.

The whole of the nett profits of the market are applied by the Borough Council in the relief of rates for the Parish of St. Saviour.

* * *

The Borough Markets are favorably known in Australia as substantial consignments are now going through from this country.

CARDIFF AS A PORT.

Cardiff is now figuring largely in the fruit distributing trade for the Midlands and the west of England, as well as for South Wales.

Last year over 85,000 tons of fruit and vegetable produce were handled in the city, and an area embracing a population of 10,000,000 was served.

MELBOURNE MARKETS.

Strawberries Plentiful. — Large consignments of Strawberries, which sold from 1/9 to 2/6 box, arrived on the Melbourne market from Queensland during August. In order to prevent topping, the fruit was shipped in single boxes of one layer, and the fruit arrived in an excellent condition.

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Growers Will Receive Top Market Value and Prompt Returns
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THE VICTORIA MARKET, MELBOURNE.

More Stands to be Provided for Fruit Growers.

A deputation introduced by Mr. Everard, M.L.A., and consisting of Hons. Tyner, Chandler, Ms.L.C., Messrs. Groves, Kirton and Knox, Ms.L.A., waited on the Market Committee of the Melbourne City Council recently and were successful in obtaining sixty extra stalls in Therry-street (off Elizabeth-street) for fruitgrowers.

Cr. Fergusson, the Chairman of the Committee, expressed sympathy for the growers who could not obtain accommodation in the market, and promised that further accommodation would be provided by the building of another shed in the Western Area of the market if the extra accommodation did not suffice.

Mr. Everard congratulated the Committee on the efficiency of the Victoria Market, which, he said was the best of its kind in Australia, and compared favorably with markets in any part of the world.

MARKET NOTES.

Born 1844—Still Going Strong.

On July 27 Mr. "Tom" Musgrove, one of the pioneer fruit merchants of Sydney, celebrated his 90th birthday at his home, 27 The Avenue, Strathfield. His old associates at the City Fruit Markets sent along letters of congratulation and suitable presents to mark the occasion. Mr. Musgrove is the founder of the business now carried on by his son, Mr. Walter Musgrove, at the City Markets, Sydney.

The schedule of the Griffith (N.S.W.) Agricultural Society shows that prizes have been donated by F. Newton (Selbest Packing House); Dining Bros., Sydney; Producers' Distributing Society, Sydney; Hedley Geeves, Brisbane; S. J. Rhodes, Sydney; Mitchell & Lawless, Sydney.

New South Wales.

Sydney (27/8/34). — The market representative of the Fruitgrowers' Fed. of N.S.W., reports prices as follows:—Apples: Crofton, 5/- to 8/-; Del., 6/- to 14/-; Demo., 4/6 to 7/-; French Crab, 3/- to 7/-, few 8/-; G. Smith, 4/6 to 11/-; Jon., 4/- to 9/-, few 10/-; R.B., 4/- to 8/-; Scarlet Pearmain, 3/- to 6/-; Statesman, 5/- to 8/-; Sturmer, 3/- to 5/-; Winesap, 4/- to 8/-; Yates, 6/- to 10/-. Pears: Jos., 6/- to to 11/-; Packham's T., 6/- to 11/-, few 12/-; W.C., 7/- to 11/-; W.N., 5/- to 10/-.

Comments on the Apple and Pear Position. — Approximately 23,000 cases of Apples are arriving from Tasmania today. Accumulated stocks still remain to be sold, but the lighter shipment should assist a clearance. **Pears**—Most brands are showing considerable wastage, and repacking is necessary or sale effected at a price lower than that quoted.

Bananas: N.S.W. and Qld., 8/- to 16/- trop. case; Norfolk Is., 4/- to 11/-; Fiji, 18/- to 22/-; deliveries from N.S.W. were approximately one thousand cases heavier than for the previous week, and prices had a tendency to ease. Citrus Fruits: Grapefruit, N.S.W. local, 4/- to 5/-, small 1/- to 3/-, inland 4/- to 9/-; Lemons, N.S.W. local 1/- to 5/-, inland 3/- to 5/-. Navels: N.S.W. local 1/- to 3/6, inland 2/- to 4/6 bush. Common Oranges 1/- to 2/6. Mandarins: N.S.W. Emperor 2/- to 6/- bush.; Thorny 1/- to 2/6 half case.

Comments on the Citrus Position. — Lemons: Supplies continue heavy with no advances in prices. Navels: Supplies have been heavy from all sources, and stocks have accumulated in the market. In addition, supplies from the M.I.A. are likely to continue extremely heavy.

With the market in such an over-supplied state, growers are advised to exercise greater care in picking and packing.

Mandarins. — Prices improved for choice, firm, large sized fruit. Puffy fruit is unwanted, but all quality fruit is meeting with fair demand.

Passionfruit, N.S.W., 6/- to 8/- half bush.; inferior, 4/- to 5/-; special, 10/- to 12/-; Qld., 6/- to 9/-; Papaws, 6/- to 8/- trop. case; Pineapples, Qld. Queen, 5/- to 7/- trop. case; Tomatoes, Qld. Bowen 5/- to 9/- half, repacked 8/- to 10/-; N.S.W. Glasshouse 10/- to 15/- half.

Victoria.

Melbourne (30/8/34).—The following prices are supplied by the Wholesale Fruit Merchants' Association of Victoria:—Apples, eating, 4/- to 6/6; some selected varieties to 8/-; cooking, 3/6 to 6/-; G. Smith, to 8/- case. Bananas—Green, 8's, 9's, 12/- to 13/-; 7's, 10/- to 11/-; 6's, 8/- to 9/- double case; few specials higher. Celery—Adelaide, 7/- to 9/- case; few specially selected lines, 1/- to 2/- higher; inferior lower. Custard Apples, 5/- to 7/- half case. Grapefruit, 4/- to 10/- case; few specially selected lines higher. Lemons—Average standard, 4/- to 5/- case; few specials, higher; small, to 3/-. Mandarins — N.S.W., 4/- to 6/- case; faulty lines lower; Vic., 4/- to 7/-; special lines higher. Oranges—Navels, average standard, 3/6 to 5/- case; selected standards, 6/- to 8/-; few specially selected, wrapped, to 10/-; Poormans, best, to 7/-;

RIDLEY & HOULDING

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Specialists in Australian Fruit.

Solicit consignments of Apples, Pears, Etc.

Our record of over 30 years' standing in the handling of Australian fruit, with satisfactory results, is a recommendation for growers to ship their fruit to our house.

REPRESENTATIVES—

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Herbert Wilson

Pty. Ltd.

Wholesale Fruit Merchants and Commission Agents

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All Orchard Supplies available at all times.

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Correspondence Invited.

H. JONES & CO. PTY. LTD.

Hobart.

Commons, 4/- to 5/-. Passionfruit, 14/-, 24/- case; few specials higher. Pines, 7/- to 8/- double case; few higher; Papaws, 8/- to 11/- double case; green lower. Tomatoes—Vic. hot-house, 12/- half case; W.A., 7/- to 9/-; specials higher; S.Aus., 14/- to 16/-; few special lines, to 17/-.

The Melbourne market manager of the Federal Citrus Council of Australia reports sales as follows:—Navel Oranges, average standards, 53-60, to 4/-; 75-112, to 4/6; 126 up, 5/-; a few, 6/-; 182, 5/-; 200, 4/-; selected standards, to 7/-; a few, 8/-; specially selected standards, to 9/-; a few higher. Grapefruit—Good standards, best counts, 60-75, 5/- and 6/-; a few, 7/-; large, from 4/-; selected lines, to 9/- and 10/-, best counts; a few specially selected higher. Lemons —Average standards, 5/-; best counts, a few, 6/-; small, slow, to 3/-. Mandarins—Emperors, best counts, 160-198, to 6/-; a few, 7/-; 248, 5/-; 288, 4/-; 350, 3/-; Commons, to 4/- and 5/-.

Brisbane (17/8/34).—Messrs. Robsons Pty. Ltd. report as follows:—Only 8,000 cases of fruit were shipped by the "Ngatora" to Brisbane this week, but this small shipment did not have the effect of increasing sales for French Crabs. Crab sales have been very slow this season, a number of consignments opening up very yellow in color, and these had to be cleared at 2/- to 4/-. All choice colored Apples are continuing to sell freely, Democrats realising to 9/6. Values for Sturmers have not improved to date, choice lines selling to 7/-.

Pears are meeting with a strong demand here, Winter Coles selling to 13/6 and W.N. to 13/-. Granny Smiths are still maintaining firm values, choice lines realising to 11/-, blemished less.

Citrus sales have shown a slight improvement, Navels selling to 7/-, Common ranges to 4/6. Scarlet Mandarins to 6/-, Emperors to 7/-, and Glens to 10/-. There is, at present a plentiful supply of small Oranges on our market, it being very difficult to obtain sales for same.

All vegetables are selling well, Cauliflowers realising to 12/- per dozen, Cabbages to 6/-, Beans 7/-, Peas to 6/6.

Brisbane (24/8/34). — Pineapples, smoothleaf, cases 2/6 to 4/6; rough leaf 2/- to 3/6; Lemons 4/- to 7/- case; Southern 4/- to 8/-; Oranges, 2/- to 4/-, special to 4/6, Navels 3/- to 7/-, odd special to 8/-; Mandarins, local, Glens, 4/- to 10/-, few large 11/-; Emperor 4/- to 7/-, large 8/-, Scarlet 2/6 to 5/-, special higher; Grapefruit, 3/- to 6/-; Passionfruit, 6/- to 10/-, special 11/-; Custard Apples, 3/- to 4/-; Papaws, 1/- to 2/6 bush. case, special 3/-; Yarwun, repacked 8/- one and a-half bush. case. Imported fruit.—Apples, Roke. 6/- to 9/-, Jon. 6/- to 10/-, SPM and STP 6/- to 8/-, ARO 5/- to 7/-, Dem. 6/- to 10/-, FC 5/- to 7/-, RB 6/- to 9/-,

Do not run any Financial Risk with your Fruit
but Consign it to

HEDLEY GEEVES PTY. LIMITED

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Harcourt Fruit Supply Co. Ltd.
Victorian Central Citrus Assn. Ltd.
Tasmania: State Fruit Advisory Board.
New South Wales: Griffith Producers' Co-op. Co. Ltd.
Batlow Packing House Co-op. Soc. Ltd.

Highest Prices. Prompt Returns.

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Wholesale Fruit Merchant and Growers' Agent.

A Trial Solicited. Returns Speak for Themselves.
Established 1888. Shipping No. 19.

ROBSONS LIMITED
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Guarantee satisfaction to Clients. Send us a trial consignment.
FRUIT EXCHANGE, BRISBANE, Qld.
Account Sales and Cheques sent promptly.
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"The Authoritative Magazine of the Deciduous Fruit Industry"

Published in Wenatchee, Washington, "the Apple Capital of the World."

Latest and most authentic information on Spraying, Fertilising, Fruit Cleaning, and all other phases of productive fruit growing.

Subscription Rates—Foreign, 3 dollars per year; 5 dollars for two years.

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Best Efforts for Good Returns.

Jacklyn & Jacklyn

Fruit Exchange, Brisbane
Queensland

Wholesale Fruit Merchants & Growers' Agents

J. H. Jacklyn, Sen., has had 40 years' experience in the fruit trade.

A Trial Solicited. Shipping No. 36.

Fruit Growers!

The secret of successful growing is yours!

To enjoy the secret of successful marketing co-operate with and consign to:—

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Licensed Farm Produce Agents.

20 Quay Street, Sydney

Who hold letters of appreciation from Growers throughout the Commonwealth.

An old established firm with a reputation which has been gained by studying the needs of each individual Grower.

Phone: MA 4077.

Reference: Commercial Banking Co. Ltd., of Sydney.

NYP and GF 5/- to 9/-; Pears, WC 9/- to 12/-, WN 9/- to 12/6, Jos. 11/- to 14/-.

South Australia.

Adelaide (24/8/34).—Apples (eating), 4/- to 8/- case; do. (cooking), 4/- to 6/-; Bananas (Qld.), 19/- to 21/- case; Lemons, 3/6 case; Oranges (Common), 3/6 case; do. (Mandarin), 8/- to 10/-; do (Navel), 5/- to 7/- case; do. (Poorman), 3/-; Passionfruit, 30/- case; Pears (eating), 8/- to 10/- case; Pineapples, 14/- case.

Western Australia.

Perth (23/8/34). — Apples, Jon. dumps, standard, 4/- to 5/6; Dunn's, standard 4/- to 7/6, prime 8/- to 8/6; R.B., plain and small 3/6 to 4/6, standard 5/- to 6/-, prime to 6/9; Yates, 3/- to 4/-, 5/- to 6/-, 6/6 to 8/6; G. Smith, 5/6 to 6/6, 7/- to 9/9, 10/- to 11/3; Cleo., 3/- to 5/-, 5/6 to 7/-; Doherty, 3/- to 4/-, 4/6 to 5/6, 5/6 to 6/-; Del. 7/- to 8/6, 9/- to 11/-. Citrus: Navels, flats, 2/6 to 5/6 (special to 6/-), dumps 4/- to 5/6, 6/- to 9/-, 9/6 to 10/-; other varieties, flats, 2/6 to 3/6; dumps 4/- to 5/-, 5/6 to 6/9; Lemons, 1/6 to 3/6 (special to 4/9); Mandarins, 2/6 to 6/9 (special to 9/-); dumps 2/- to 8/- (special to 12/-, inferior from 1/6).

NEW ZEALAND.

Messrs. Reilly's Central Produce Mart Ltd., Dunedin, N.Z., report under date August 10, 1934, as follows:—The week's business has been quite satisfactory. Some nice lines of Apples and Pears are coming forward from cool store, and the demand has been good. Good colored Apples, principally Jon. and Del. are bringing better values.

The "Maui Pomare" brought a full shipment of Samoan and Niue Bananas, the Dunedin portion consisting of 1,615 cases. The fruit was in perfect condition, and met a good demand. A few consignments of Cal. Oranges came to hand during the week, also Island Oranges—the latter being in particularly wasty condition. Retailers are anxiously awaiting the arrival of the "Waitaki," when sufficient Australian Oranges should be available for immediate requirements.

Prices.—Half cases: Passions wanted, dessert Pears 3/-, 4/-; N.Z. Lemons, 12/6; bushel and American cases: Apples, Del., 6/-, 8/6; Jon., 6/-, 7/6; G. Smiths, 7/-, 8/-; Cleos., 6/-, 7/-; cookers, 3/6, 5/-; Pears, cooking, 4/6, 6/-; W. Coles, Nelis, 6/-, 8/-; Cal. Oranges, 45/-; Australian Oranges, 18/-, 23/-; N.Z. Oranges, 16/-, 20/-; Cal. Lemons, 65/-; N.Z. Lemons, 1st grade 24/-, 2nd, 15/- to 18/-; Bananas, ripes, 17/6; Poorman Oranges, 9/- to 10/6; Island Oranges, repacks, 21/-; Pineapples, 16/-, 20/-.

SPECIAL NOTICE TO FRUITGROWERS

All Members under Fidelity Bond

In response to numerous requests from growers for information as to who are members of the **Wholesale Fruit Merchants' Association of Victoria** the following list is given. All are members of the above Association, and are registered firms carrying on business in the WHOLESALE FRUIT MARKET, MELBOURNE.

STAND NUMBERS ARE AS INDICATED IN PARENTHESIS.

T. STOTT & SONS (26).
H. L. E. LOVETT & CO. (23).
A. E. PITT (14).
J. DAVIS PTY. LTD. (8).
W. S. TONG (31).
SILK BROS. PTY. LTD. (24-25).
J. G. MUMFORD (35).
GOLDEN VALLEY FRUIT CO. PTY. LTD. (15).
J. W. ROSS (13).
J. H. YOUNG & CO. PTY. LTD. (32).
H. M. WADE & CO. (21).
DAVID SMITH PTY. LTD. (3).
SILBERT, SHARP & DAVIES PTY. LTD. (17)
W. A. WATKINS (5).
P. A. PATRIKEOS (36).
G. WOOLF & SONS (29-30).
F. CAVE & CO. PTY. LTD. (9).
R. CORNISH & SONS (5).
J. HYMAN & SON (51).
HERBERT WILSON PTY. LTD. (10).
FRANK BOOTH & SONS PTY. LTD. (16).
GEO. LISTER PTY. LTD. (12).
TIM YOUNG & CO. PTY. LTD. (18).
F. W. VEAR PTY. LTD. (28).

GROWERS PROTECT YOURSELVES by consigning to members of the WHOLESALE FRUIT MERCHANTS' ASSOCIATION OF VICTORIA.

J. D. FRASER, Secretary, 21 Wholesale Fruit Market, Queen Street, Melbourne. Phone F 4866.

Correspondence is invited by the Association.

ADVERTISING QUEENSLAND FRUIT.

The Committee of Direction of Fruit Marketing, Brisbane, is in receipt of appreciative comments regarding the effectiveness of their campaign for advertising Bananas, Pineapples, Oranges, etc.

Particularly fine appreciations have come from schools in the several States. This reveals that the mind of youth is being impressed with the importance of the fruit industry and fruit products.

AMONG THE RETAILERS.

Considerable interest has been aroused amongst the Melbourne Fruit Retailers regarding the new organisation for improving local marketing.

At a meeting of the Committee of the Melbourne and Metropolitan Retail Fruiterers' Association on August 2, Mr. F. Cave, Chairman of the Executive of the Committee of the local marketing organisation, expounded the programme in detail.

The retailers expressed particular pleasure at the formation of an Association, which would include all branches of the industry, growers, wholesalers and retailers.

The proposed standards for the marketing of Apples and Pears were approved and pleasure was expressed at the decision of the Executive to recommend that all fruit under the "Victorian Mark" brand should be in clean approved cases.

Mr. Cave's address was punctuated with applause and he was accorded a very hearty vote of thanks.

THE SHRINKAGE OF TIMBER.

All timbers do not shrink the same amount, and a timber user often wonders why one piece of timber shrinks more than another. When very accurate measurements are made, it is surprising to find how variable the reduction in dimension can be. Thus, if two pieces are cut side by side from the same board and dried in different ways, their final sizes may be quite different, although they were reduced to the same moisture content. Again, treating the green timber in varying ways can affect the amount it will ultimately shrink.

In U.S.A., of recent years, timber has been treated with certain solutions and gases, so that the amount of shrinkage has been considerably reduced. Except in a very few cases, however, such treatments have not been found practicable.

The Division of Forest Products has commenced a series of experiments on the fundamental shrinkage properties of Australian timbers, and these should ultimately yield some very interesting results.

ADVERTISING FRUIT.

Australian Apple and Pear Growers provide several thousand pounds sterling annually for advertising their fruits in British markets. The campaign is well conducted and tangible benefits have followed.

What about advertising in Australia?

By a well conducted advertising campaign on educational lines in Australia, the consumption of fruit can be substantially increased. This matter is one of prime importance, and should receive the earnest consideration of growers and the trade.

COMING N.S.W. SHOWS.

Forbes	Sept. 4-5
Murrumburrah	Sept. 4-5
Ungarie	Sept. 5
Boorowa	Sept. 6-7
Cowra	Sept. 11-12
West Wyalong	Sept. 11-12
Albury	Sept. 11-13
Barmedman	Sept. 15
Canowindra	Sept. 18-19
Temora	Sept. 18-20
Singleton	Sept. 19-21
Hall (F.C.T.)	Sept. 21-22
Barellan	Sept. 26
Eugowra	Sept. 26
Quandialla	Sept. 26
Hillston	Sept. 26-27
Hay	Oct. 2-3
Narrandera	Oct. 2-3
Ardlethan	Oct. 3
Bribbaree	Oct. 3
Leeton	Oct. 9-10
Ariah Park	Oct. 10
Griffith	Oct. 16-17
Cootamundra	Oct. 23-24

LONDON AS A PORT.

No fewer than 57,470,150 tons of shipping used the Port of London last year. This is over a million tons a week, and the quantity is increasing. The population in the South East of England is increasing rapidly, 220 new factories being installed in the Thames valley last year. Within the economical delivery of 100 miles from London there is a population of 20,000,000 people.

Laugh at misfortune, but not when it hits the other fellow.

SUPPORT CO-OPERATION

By Consigning your FRUIT to the

Producers' Distributing Society Ltd.

(Late Coastal Farmers' Co-operative Society Ltd.)

Agents for

"BLACK LEAF 40"
and all Orchard Requirements

Melbourne Sydney
Newcastle Devonport

Cooksley & Co.

(W. P. COOKSLEY)
Reliable Fruit Agents
Over 30 Years Experience
TRY THEM!

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"COOKSLEYS," BRISBANE

Fruit Exchange, Brisbane
QUEENSLAND

Shipping No. 29

Reference: Commercial Banking Co. of Sydney Ltd.

Australasian POULTRY WORLD

ALL NEWSAGENTS

6d. Per Copy 6/- Per Annum

Ship Your Oranges, Lemons, Grapes to New Zealand

All consignments for this market will have careful attention and realise highest prices if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

Personal supervision of every consignment.

Cheques posted promptly.

Drop us a Line or Cable: "Peachbloom," Dunedin.